

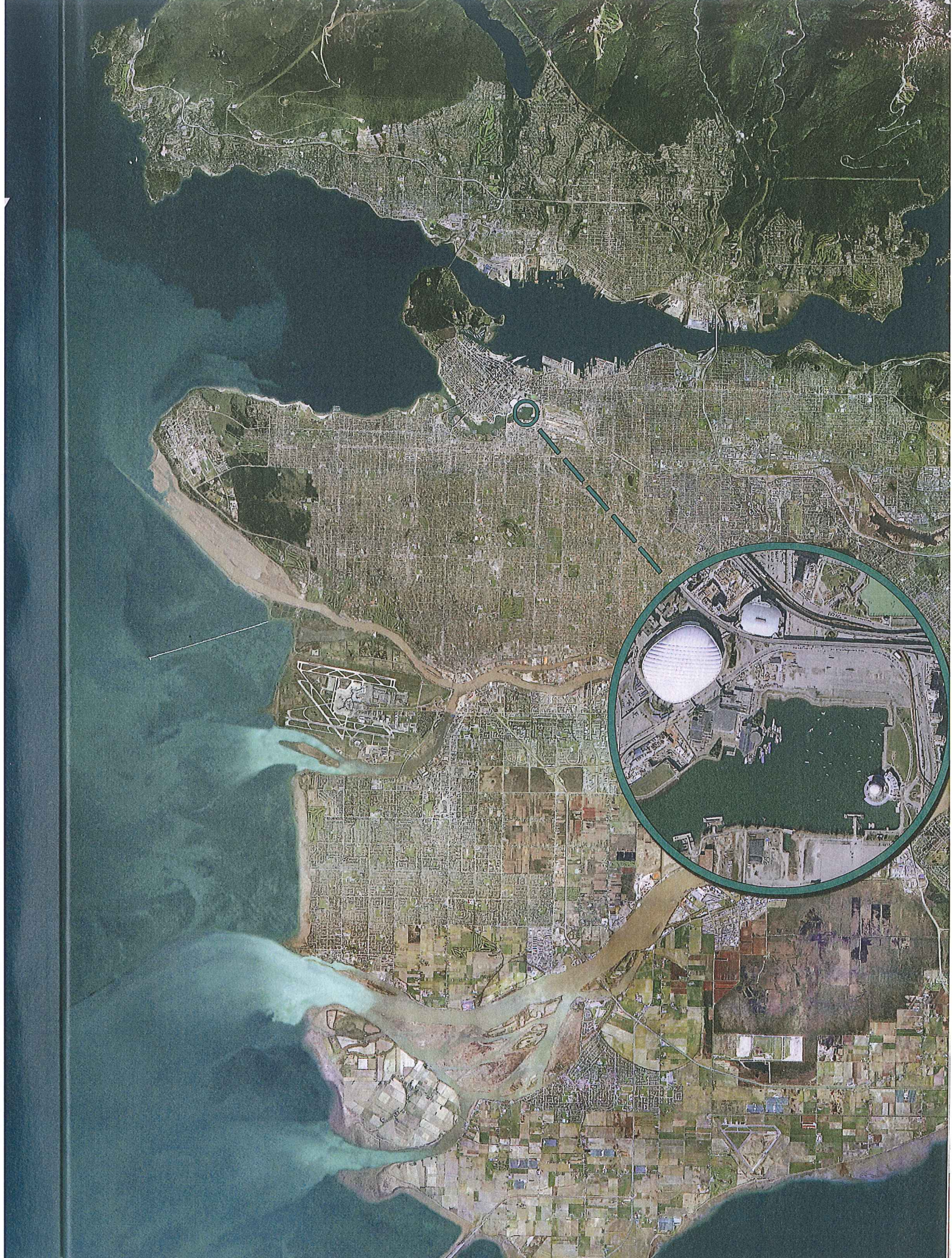
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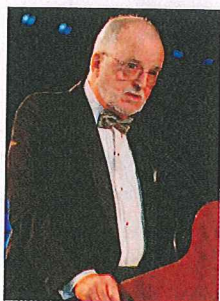
McELHANNEY CONSULTING SERVICES LTD.

Innovation & Creativity

FROM TRANSPORTATION
PROJECTS TO HUMANITARIAN
WORK, McELHANNEY
CONSULTING SERVICES LTD.
EARNS TOP HONOURS



PHOTO: COURTESY OF McELHANNEY. BOB BROCKLEBANK: CONSULTING ENGINEERS OF B.C.



Bob Brocklebank

INNOVATION AND CREATIVITY AREN'T JUST words for McElhanney Consulting Services Ltd. This 97-year-old Vancouver company consistently wins awards in various categories and markets. From modest beginnings as a sole proprietorship, the firm founded by William G. McElhanney in 1910 has grown to a staff of 800 with 19 offices throughout Western Canada and Indonesia. Its work ranges from B.C.'s most important transportation projects to bread-and-butter land development work in B.C., exotic land administration projects in Cambodia, where staff face the unusual hazard of land mines, and tsunami relief work in Indonesia, where its efforts are making a difference to the survivors' lives.

The company's diversity is largely a result of the vision of Bob Brocklebank, who led McElhanney from

Above: Mount Lehman Interchange, Trans-Canada Highway, Abbotsford. Left: Bob Brocklebank was presented the 2006 Beaubien Award by the Association of Consulting Engineers of Canada for his lifetime of contributions to the consulting engineering industry.

1964 until his retirement in 1995, and still serves on the board. His association with the company started in 1958 when Brocklebank met McElhanney's partners on a survey project in Southeast Asia. The partners subsequently hired Brocklebank to manage its Vancouver operation, and never looked back.

For its land administration work in Cambodia, McElhanney recently received two national awards as well as the 2004 B.C. Lieutenant Governor's Award for Engineering Excellence, the top award presented annually by the >



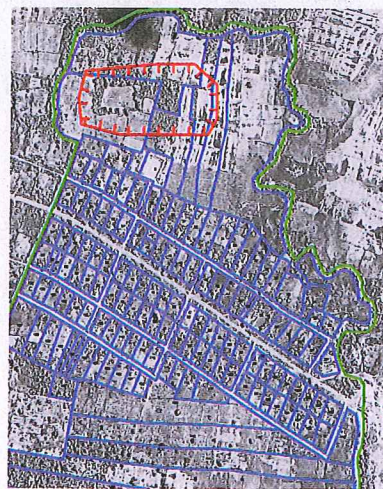
Top left: Pre-tsunami aerial image of Ujong Muloh in Aceh. Note dense housing, rice paddies, fruit plantations and highway bridge. Top right: Post-tsunami devastation.

Consulting Engineers of B.C. Since then, the company has secured additional land administration contracts worth \$7 million for the Canadian International Development Agency (CIDA) in Cambodia, and \$3.5 million for the Canadian Red Cross in the tsunami-ravaged province of Aceh, Indonesia.

This humanitarian work is enormously important in helping communities rebuild. McElhanney contributed 20 per cent of the costs for the Cambodia work and is completing the Aceh project under similar terms. These projects re-establish the property boundaries for land title registration. While it sounds simple, where do you begin when looking at an area devastated by war or tsunami? Or when building homes on land contaminated with land mines or land that has been simply swept away?

Ownership claims become complicated when families are missing and when families own land that was destroyed, entire villages must be relocated.

Although international work comprises less than 15 per cent of McElhanney's business volume, it is an important part of its history, culture and image. Hence the permanent office in Jakarta, Indonesia, primarily servicing the world's largest open-pit mine, the Grasberg copper and gold deposit in the province of Papua.



Above: Village boundary map in Cambodia with area of land mine concentration shown in red. Right: Cambodian land title certificate.

When talking about McElhanney's success, president Chris Newcomb observes: "It's remarkable how many awards we've won recently in the transportation category because there's so much work going on right now and so many contenders. These days the words 'innovation' and 'creativity' are over-used, but our capability is demonstrated by the fact that we've been on the winning team for many of the P3 [public-private partner-

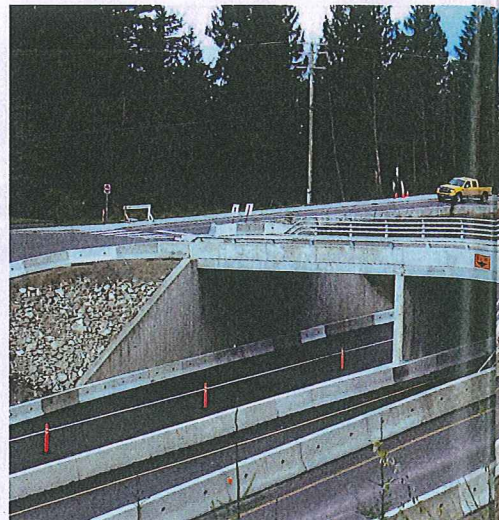


ships] and design-build transportation projects in B.C. in the last 10 years."

These include the Sea-to-Sky Highway, Golden Ears Bridge and South Surrey Interchange – B.C.'s first single-point interchange. Adding high-quality aerial imagery to its proposals and using visualization technology that takes you for a virtual ride along the Sea-to-Sky Highway gives McElhanney a competitive edge in design competitions, and



Above: Highway 97, Okanagan Lake Park to Greata Ranch. Right: Ansell Place Interchange, part of the Sea-to-Sky Highway Improvement Project.



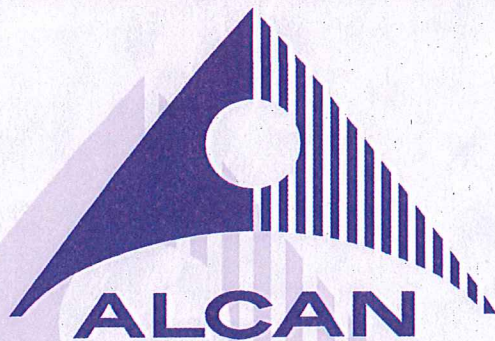
provides its clients with practical support during public meetings. McElhanney also contributed to the 2010 Olympic Bid Book using satellite imagery for project visualization.

McElhanney concentrates on what it does well, without trying to be everything to every client. Newcomb explains: "An important

attribute is our ability to produce. Our clients and partners know we can be counted on to grind out large volumes of quality work when there are tight deadlines to be met. Even when we're not on the winning team of a P3/DB [design-build] we're often retained by the winners to provide mapping, survey or

engineering support."

Production capacity aside, the secret to McElhanney's longevity and success is understanding the value in cultivating creativity and talent from within, assets that give it the edge when pursuing high-profile P3/DB projects. Newcomb reflects on the way some P3/DB



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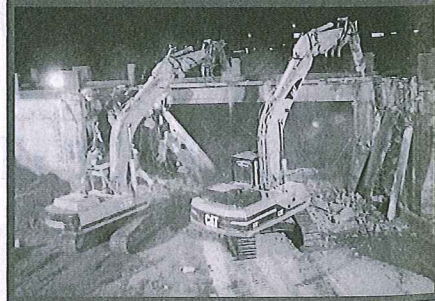


PHOTO: HIGHWAY 97, AL JONES, MINISTRY OF TRANSPORTATION



projects have been tendered over the last decade: "One of the reasons we've been successful in B.C. is that big clients have invited the P3/DB teams to innovate. This attests to the leadership provided by the B.C. Ministry of Transportation, TransLink and municipalities. They give us the objectives, criteria and constraints, then we let the designers go to it.

"This type of work is the most fun, exciting and rewarding work for our designers as they unleash their creative juices designing something that they develop ownership for. The great thing about these jobs is that during the design competition our team brainstorms from first principles, unencumbered by 'what we always do.' We hope these clients continue to tender projects in a way that gives us the freedom to find the best solutions to tricky projects."

Peter Milburn, chief operating officer for the B.C. Ministry of Transportation, agrees: "Innovation and coming up with cost-effective solutions is key for our projects." At last February's Ministry of Transportation awards, McElhanney won first place in two of the four categories. For Excellence in Design and Contract Preparation, McElhanney won for its work on a 4.5 kilometre stretch of Highway 97 – Okanagan Lake Park to Greata Ranch – where challenges included unstable slopes prone to failure under poor drainage conditions, large volumes of blasted rock to be processed and used on site, and reducing impact to the travelling public.

Milburn recalls: "We found that they



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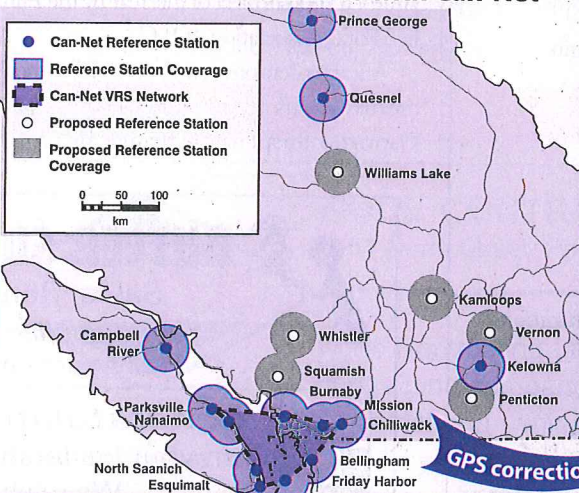
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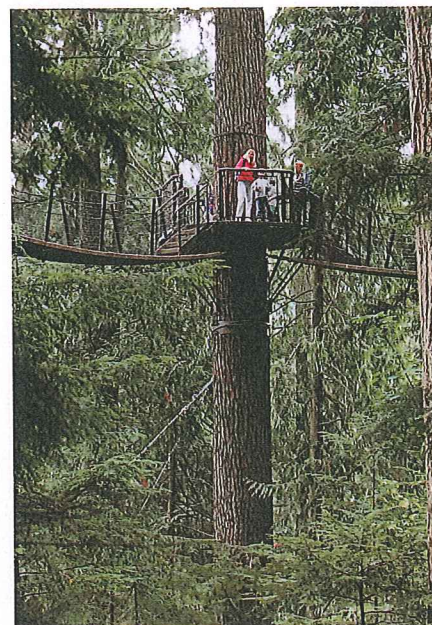
were flexible, adaptable and able to think on their feet. They came up with a practical and maintenance-free design feature for the drainage outfalls and they used an innovative split-grade design, basically terracing the highway through the unstable area. They continue to provide good innovation for the ministry that has reduced costs and resulted in effective designs. They are easy to work with and produce a quality product on time."

This project was completed \$1 million below the \$17 million budget. At this same gala event, McElhanney also took first place for Excellence in Construction Supervision Services for the Ootsa Nadina Road upgrade project near Burns Lake.

In March, McElhanney also picked up the Consulting Engineers of B.C. award for Engineering Excellence for the Mount Lehman Interchange. The City of Abbotsford and the Ministry of Transportation retained three consultants to prepare competitive interchange designs.

McElhanney's winning concept was a one-way couplet connecting Fraser Highway to MacLure Road across the Trans-Canada Highway. By separating opposing traffic lanes they were able to introduce free-flow directional ramps that, when combined with two twin-lane roundabouts, eliminated several intersections and enhanced traffic access between destinations. The final design occupies 13.8 hectares less land, contributing an estimated \$13.6 million to offset the construction cost. The winning design was also awarded 2006 Project of the Year by the Public Works Association of B.C.

Another demonstration of McElhanney's creativity is its award-winning work at the Capilano Suspension Bridge in North



Above: Treetops Adventure, Capilano Suspension Bridge, North Vancouver.

PHOTO: CAPILANO GROUP OF COMPANIES



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Vancouver. Already a visitor favourite, in May 2004 Treetops Adventure was added to allow guests of all ages to stroll along an elevated walkway into the lower reaches of the old-growth canopy. Treetops was built without a single saw-cut, bolt or nail penetrating any tree, believed to be a world first. John Stibbard, director of corporate development for the Capilano Group of Companies explains: "Art Williams started working on our bridge in the late 1960s when he joined McElhanney. They did great work so they naturally became our engineers and we've thrown all kinds of unusual stuff at them ever since."

McElhanney's ongoing work is to monitor movement at the base and deck level of each tree to millimetre accuracy to ensure that Treetops is not affecting them. "They have also been extremely helpful over the past winter helping us deal with a 40-ton tree that fell on the bridge after one of our many severe winter storms," says Stibbard. "Trying to get a tree of this size off the bridge is not simple; you can't just cut it off as the bridge would shoot up in the air. Kent LaRose from McElhanney devised a way to lift the tree in a safe and controlled manner using cables and pulleys." A section of the huge tree was left where it fell to become a part of the boardwalk.

How does McElhanney drive this kind of creativity in the world of engineering? John Blair, vice-president of geomatics shares his thoughts: "We are the only company in B.C. with the combination of skills in mapping, surveying, community planning and engineering, not to mention our more recent additions of biology and materials testing. Some of our best designers are surveyors who can visualize their designs in 3-D. This is tremendously important on projects in steep terrain, such as the 128-kilometre Galore Mine access road for Nova-Gold Resources currently under way in north-western B.C."

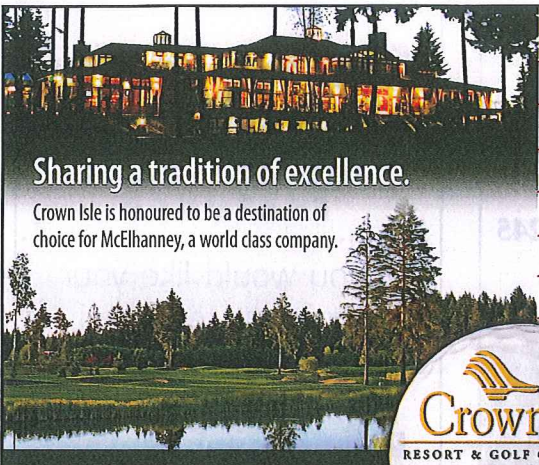
"We also have key people with the kind of mindset that attracts other people who think outside the box and are excited about doing something new." Ownership is evenly distributed among McElhanney's senior employees; about one third of staff are shareholders, with none owning more than five per cent. Thus, all senior staff enjoy the



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benefits of success and the remaining employees participate in an annual bonus plan.

Attraction and retention strategies are straightforward. McElhanney funds scholarships at UBC, BCIT, and University of Calgary to the tune of about \$10 thousand a year. What better way to collect resumes of the best and brightest? McElhanney advertises in professional magazines, enticing readers with headlines like "Want to Work on Award-Winning Projects?" With permanent locations in B.C., Alberta and Indonesia, and a variety of work across disciplines, it can develop employees in their areas of choice, whether it be management or strengthening their technical skills.

McElhanney also boasts a "Boomerang Club" for returning staff who left the company to pick up new skills and cultivate new relationships. The informal club stands at about 40 members. Blair jokes: "Don't be worried about leaving because you will be at your most useful when you return." McElhanney has a training budget for every employee. Newcomb sees two or three requests a week for training assistance ranging from one-day courses to degrees and MBAs; these requests are rarely denied. Because McElhanney promotes from within, all of its senior people are long-term employees.

"Perhaps most important of all," adds Newcomb, "is that we limit our growth to our ability to recruit quality staff. We don't pursue growth for its own sake.

"We're the oldest engineering firm operating continuously under the same name in Western Canada. I think Mr. McElhanney and Mr. Brocklebank pretty much got it right when they set us on our present course."

Sounds like there will be another big party in Vancouver in 2010 when McElhanney turns 100. ■

This promotional feature was prepared for McElhanney Consulting Services Ltd. by BCBusiness magazine's Special Advertising Features Dept. Writer: Tonia Furbin. For information contact BCBusiness director of corporate features John Cochrane at 604-299-7311. Email: jcochrane@canadawide.com

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