

editorial

going global



This edition of Coastlines includes items covering our work both overseas and in New Zealand. We have also profiled two key members of the Port and Coastal team, Stephen Priestley and Lucy Brake, as we thought you might like to know a little more about the people that help you to deliver your projects.

For some time, we have been making concerted efforts to develop our markets overseas. International projects are a must if we want to grow our business. In the port and coastal sector, these efforts have been very worthwhile. The overseas work we do has many benefits that flow back to our work in New Zealand. The work is often large-scale and we are able to employ people and develop technology that we can then utilise back in New Zealand. In addition, we will

often team-up with other consultants. It is always interesting to see how others approach projects and we learn a lot from this.

Overseas projects also tend to be broader and more multifaceted, with social and environmental issues playing a prominent role. It is this broader scope that has enabled the likes of Lucy and Stephen to collaborate on a number of high-profile projects, leading to good outcomes for the Client and for us.

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Following this edition, Coastlines will move from quarterly to bi-annual publication, so you will see the next edition in March 2005.

Richard Frankland

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boating CAP plans a strategic future

Beca has been commissioned by the Central Coastal Board (CCB) in Victoria, Australia to develop a Boating Coastal Action Plan (CAP) for the Central Coastal Region.

The CCB had identified the need for regional decision-making guidance and priority setting for the long-term provision of boating facilities in the Port Phillip and Western Port areas. The Boating CAP will provide strategic direction for the use, development, management and funding of boating infrastructure and facilities for approximately 800 km of coastline, including Melbourne.

The first stage of this project was the development of an Existing Conditions and Background Paper. Beca provided an experienced team of coastal planners from both Australia and New Zealand to ensure a mix of experience and advantageous results for the project. Stage One defines recreational boating infrastructure and provides an assessment of all existing facilities, overviewing the strategic policy framework and analysing contextual drivers.

Criteria for accommodating the future recreational boating infrastructure were also developed in recognition of triple-bottom line outcomes. This involved drawing together the capacity constraints and opportunities and ranking these at a high-level to identify strategic boating areas.

Stages Two and Three involved consultation on the vision and guiding principles for boating in the region. The final stage will involve the preparation and drafting of the Boating CAP and further consultation with boaters and stakeholders. The project is due to be completed in mid 2005.

Results of Stage One were presented at the Boating Industry Australia Show held in Melbourne in July 2004. More details can be found at www.ccb.vic.gov.au.

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kohi: back in shape for summer

The construction of Tamaki Drive in the 1930s allowed Auckland to spread eastward into the bays and opened up the coastline for public recreation. The Eastern Bays are now some of the most popular scenic areas in the city, but intense urban development and stormwater discharges have put pressure on the area and led to sand depletion on a number of the beaches.

Protecting these urban beaches from further erosion is a high priority for Auckland City. Having worked with the City in 1995 on the successful Mission Bay beach replenishment, Beca was commissioned to provide design services, coastal modelling and ongoing technical advice for a similar replenishment and protection project at Kohimarama.

"Kohi's 800m long stretch of coastline had suffered from sand depletion over a long

period of time", said Beca's Technical Director, Stephen Priestley. "The project involved replenishing the beach with approximately 50,000m³ of sand, which was extracted from a 40m depth at Pakiri north of Auckland and transported by sea to Kohi. We also designed two new headlands for each end of the beach, which act to contain the new sand and minimise further loss".

Public feedback told the project team that any new structures should look natural rather than engineered, so the new headlands were given a sandstone-like appearance, carefully designed to fit with the coastal environment.

Another important phase of the project was the consolidation of existing stormwater pipes, to reduce stormwater discharges to two points on the beach. "The new stormwater outfalls now discharge at two submerged locations under the beach so as to interfere less with the beach's coastal processes", says Stephen.

A new boat ramp and additional landscaping means Kohimarama beach is now in great shape to play host to its usual summer holiday crowds.

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fiji plans a new port

Fiji's Ministry of Fisheries and Forests (MFF) have commissioned a team of Beca specialists, in conjunction with Erasito Consultants in Fiji, to undertake planning and development for a greenfield port development at Wairiki in the Bua region of the island of Vanua Levu.

The new port development, which will facilitate the export of timber chip from the island, will include a wharf facility, access roading and site development for an associated sawmill and chipmill. Investment in

this new infrastructure will promote economic growth and support the island's developing timber industry.

The large size of ships coming through the port (up to 200 m, with a draft of 11 to 12 m) meant careful assessment of potential sites was required. Beca and Erasito began with a review of the MFF's site selection process and agreed that, of three possible sites, Wairiki was the better site - requiring the shortest wharf structure and having deep water closest to the shoreline.

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The team then developed options for the new wharf and chip loading facility, road access from the chipmill/sawmill site down steep terrain to the wharf, and staged development of the mill site. Cost estimates for each alternative were presented to the MFF, who have recently confirmed their chosen options. An environmental impact assessment and geotechnical investigation are now underway and will be followed by detailed design, led by the Beca/Erasito team.

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axis fergusson expansion

Progress on Ports of Auckland's Axis Fergusson container terminal reclamation is advancing steadily with Stage One of the expansion well underway.

The project, which involves dredging the Rangitoto Channel commercial shipping lane for the new deeper draught container ships now calling (and expected in the future), will also provide about 10 hectares of reclaimed land for container handling. The expansion is expected to increase the terminal's capacity from approximately 350,000 to around 580,000 containers per year.

Beca has been involved in the project since 1993 and is now providing technical advice and construction observation on the civil engineering aspects of the upgrade. Stage One, which began in March this year, involves the construction of the first five hectares of reclamation, using cement-stabilised dredgings from the harbour seabed and Beca's mudcrete technology.

A new batching plant has been commissioned and is now operating on site to process the dredgings. Automating this process has led to the production of a superior grade of

mudcrete and approximately 30,000 m³ of dredged material has already been mixed to date. The mudcrete is now being used to construct the reclamation and its perimeter bund, which will include rock protection on the seaward side.

Stage One of the project also involves the construction and installation of stormwater treatment devices, so that surface runoff from the reclamation is treated before being discharged to sea. In addition a public walkway will be constructed along the reclamation's eastern side, with viewing platforms for sightseeing and fishing.

Stage One of the project is scheduled for completion in 2006. Future stages involve the completion of the 10 hectare reclamation progressively over several years using port maintenance dredgings.

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profiles



Stephen Priestely
Technical Director
Auckland



Lucy Brake
Senior Planner
Tauranga

Q: How long have you been working in Infrastructure Engineering Stephen?

A: 25 years

Q: How much of that time has been spent with Beca?

A: 20 years

Q: Why did you choose Ports & Coastal Engineering as a career?

A: Maths was always one of my strong points so engineering seemed like a good field for me to go into. Initially I was involved in a lot of stormwater, river and harbour projects, so ports and coastal engineering was really a natural progression. I also did coastal engineering as part of my Masters.

Q: What's the best thing about your job?

A: The successful completion of projects that really meet client and public expectations. It's great to see new or upgraded facilities being used, and seeing these projects continue to be successful as a going concern.

Q: Any downsides?

A: Writing proposals only to learn you haven't been successful!

Q: Do you have a favourite project?

A: I'd have to say that the America's Cup Harbour development is a favourite. It had to be done quickly so it was a very intense project, but we got it completed and saw the rewards of that.

Q: What is your favourite piece of coastline or place to spend time?

A: I love the coastlines in the Far North around Taupo Bay and Manganui. One of my favourite places to spend time would have to be the golf course.

Q: What innovation or invention would you be lost without?

A: I try not to rely too much on technology at all - I catch the ferry to work and don't even have a cell phone!

Q: What innovation or invention would you like to see?

A: Sustainable electric energy generated from the sea/waves.

Q: Who has inspired you and why?

A: Ron Carter has been a real inspiration for his influence on engineering as a business.

Locations

New Zealand

Auckland
Wellington
New Plymouth
Christchurch
Tauranga
Hamilton
Dunedin

Australia

Adelaide
Brisbane
Melbourne
Sydney

Brazil

Sao Paolo

China

Suzhou
Beijing

India

New Delhi

Indonesia

Jakarta

Myanmar

Yangon

New Caledonia

Papua New Guinea

Port Moresby

Singapore

United States of America

Los Angeles
San Francisco

Visit the Beca website for full office contact details.

Send your feedback and suggestions for future issues to portsandcoastal@beca.co.nz

Q: Lucy, how long have you been working in Environmental Planning?

A: For eight years.

Q: How much of that time has been spent with Beca?

A: Two and half years. I wanted experience in the private sector and was offered a job with Beca in Tauranga. They were working on the Coastal Infrastructure Management Strategy in Samoa - so the decision wasn't hard!

Q: Why did you choose Coastal Planning as a career?

A: I enjoyed science and geography at school. When I completed my BSc at Auckland University I decided to focus on Coastal Management. I also joined the NZ Coastal Society to learn more about the industry and I'm now the Chair of the society.

Q: What's the best thing about your job?

A: Planning is a holistic discipline drawing on a range of expertise across different disciplines - engineering, science, environmental management, project management - and I enjoy this interaction. The site visits are great too!

Q: Any downsides?

A: Not really - I enjoy the travel and working with different communities. Sometimes communicating with a range of people from different disciplines can be very interesting!

Q: Do you have a favourite project?

A: Definitely the Winston Churchill Memorial Trust Fellowship I was awarded to research approaches to coastal zone management in the US, UK and Australia. I also enjoy the projects that enable me to go to new places and visit the coast to see how people are looking after these environments.

Q: What is your favourite piece of coastline or place to spend time?

A: In NZ it would have to be Great Barrier Island. I love sailing around all the little coves and bays - adventures round each corner and it's so peaceful! The Outer Banks on the American East Coast are a real favourite too.

Q: Who has inspired you and why?

A: Intelligent people who are dedicated to what they do and good at motivating others. Also, people who surround themselves with good people - I like that.