New Zealand Ready Mixed Concrete Association Inc.

NZRMCA Newsletter, August 2010 Issue 2/2010

MESSAGE FROM THE PRESIDENT

Greetings Readymixers,

NZRMCA Council comment from Jon Hambling.

Winter 2010 has been wetter and milder for many areas so far this year, providing plenty of re-organizing the daily work load to keep our fleets busy and customers happy.

National volumes remain low, but appear to be flattening out.

Overall residential building permits are up on the same time last year, however this is tempered by a decline in commercial activity.

With the combined Industry conference in October fast approaching, a great standard of ready mix and engineering papers have been submitted, I am positive this will add to another successful conference. This years conference sees the bi-annual ready mix awards roll around, the Extra Distance and Technical Excellence awards.

I look forward to seeing the industries technical triumphs, and extents we go to, to get the job done, satisfying the client/customer.

Finally the 2010 financial year has drawn to a close with the net operating deficit slightly better than plan.

As we are yet to finalise the 2011 budget, get any ideas into your regional chairman/secretary for projects or promotions that could be considered by council for the new financial year.

Jon Hambling
PRESIDENT

CATHY CASTLE MOVES ON

Cathy Castle, CCANZ financial administrator for over 10-years, left the organisation recently.

Cathy diligently fulfilled her duties with precision for not only CCANZ, but also the NZRMCA, NZCMA, PCNZ, the New Zealand Masonry Trades Registration Board and the Construction Industry Council.

Cathy will be missed by her CCANZ colleagues, as well as all those in the industry with whom she worked over the past decade. We wish Cathy all the very best.

Cathy Castle

INSIDE THIS ISSUE

NEWSLETTER

If you would like to receive your newsletter by email, please let Angelique know at admin@cca.org.nz.

AQA CONFERENCE

The Many Facetted Functions of Rock

The focus of the 42nd Quarry NZ Conference held in Napier this year had a focus on quality, safety and ultimate uses of quarried materials. More than 350 delegates attended and were treated to excellent, thought provoking presentations, interesting field trips and some fine dining and networking.

One presentation showed the future of building design and smart solutions that are a already a reality in many parts of the world. Entitled *Second Millennium Construction Trends*, the presenter was CCANZ Project Manager Bassim Bahr Aliloom.

Bassim is principal structural engineer with an impressive background over 25 years in design management, structural design, analysis and computer modeling for large scale projects such as stadiums, industrial power plants and super hi-rise buildings.

The sheer scale and futuristic designs of the buildings he showed pictures of were awe-inspiring. For quarry professionals who blast the raw rock to provide aggregate in the forms required by our society, these structures are a magnificent end product for their raw materials.

Another presenter Philippa Black, Emeritus Professor of Geology University of Auckland introduced the two aims of the New Zealand Aggregate Inventory Project. The first is to survey the aggregate source rocks to identify and map f their mineralogical and physical properties. The second is to provide an understanding of the relationship between geological properties of aggregate source rocks and the engineering tests that are used to specify aggregates for various end uses.

Many tests used to specify aggregates (e.g. those in NZS 4407.2:1991) were in fact developed overseas for rock types that are different to aggregates in New Zealand.

Therefore it is useful to understand what the tests are actually measuring and consider how useful the tests are as predictors of the performance of New Zealand aggregates.

It is widely felt that we are not maximising the utilisation of New Zealand aggregates due to limitations with the current test methods.

Jason Lowe, Aggregate and Quarry Association Councillor, and National Manufacturing Manager Winstone Aggregates also discussed aggregate testing methods.

Jason, who is currently carrying out post-graduate research at Auckland University, reported on his research programme and reviewed and summarised the findings of a literature review which focused on three main areas:

- common tests currently employed in New Zealand.
- current alternative test methods, both in use and in development.
- a review of existing technology with the aim of developing a more appropriate test methodology for distinguishing between competent rock and deleterious material.

His presentation concluded with a discussion on the experimental methodology, including proposed scope, timescales and future work required.

The conference partners are the Aggregate and Quarry Association of NZ and the Institute of Quarrying. Further information about the Quarry NZ Conference presentations can be found on the Aggregate and Quarry website, www.aqa.org.nz.

ADMIXTURES AND THEIR FUNCTION

Concrete's strength may be affected by the addition of admixtures. Admixtures are substances other than the key ingredients or reinforcements which are added during the mixing process. Some admixtures add fluidity to concrete while requiring less water to be used.

An example of an admixture which affects strength is superplasticizer. This makes concrete more workable or fluid without adding excess water.

A list of some other admixtures and their functions is given below. Note that not all admixtures increase concrete strength. The selection and use of an admixture are based on the need of the concrete user.

Some Admixtures and Their Functions

TYPE	FUNCTION
AIR ENTRAINING	Improves durability, workability, reduces bleeding, reduces freezing/thawing problems
SUPERPLASTICIZERS	Increase strength by decreasing water needed for workable concrete (e.g. special
RETARDING	Delays setting time, more long term strength, offsets adverse high temp. weather (e.g.
ACCELERATING	Speeds setting time, more early strength, offsets adverse low temp. weather (e.g.
MINERAL	Improves workability, plasticity, strength (e.g. fly ash)
PIGMENT	Adds colour (e.g. metal oxides)

DEDICATED CEMENT DELIVERY

By John Stewart, Manawatu Regional Manager, Higgins Concrete

One of the concrete industries long serving members passed away on the 9th May 2010. For 18 years Barry Thompson or 'Tommo', as he was known by many, delivered cement for Higgins around the lower North Island to a wide range of locations. During this time Barry clocked up an estimated 3 million kilometres driving his Mack truck – this without any major incident or accident.

Barry started with Higgins in Palmerston North in the early 1970's when the company was very small and was still called D Higgins & Sons. In the early years Barry worked with Higgins driving a motor scraper. Later he moved on to other companies, but came back to us at Higgins Group to drive for the Cement delivery area.

Barry was a role model for many young guys over the years, showing them work ethic, loyalty, reliability and honesty.

Barry will be missed by us all. And most of all – always remembered.

FOR THE DIARY - IMPORTANT DATES

- New Zealand Concrete Industry Conference, Wellington Convention Centre, 7-9 October 2010

NZRMCA REGIONAL MEETINGS *(check local notices for precise times)*

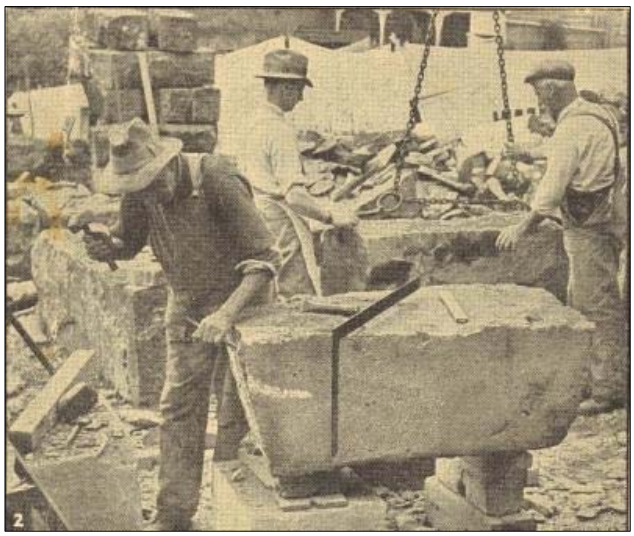
REGION	DATE	VENUE
Northern	Next Meeting TBA	TBA
Auckland	Next Meeting TBA	TBA
Central North Island	Next Meeting TBA	TBA
Lower North Island	AGM, Thursday, 16 September 2010	3.00 p.m., Stellar Restaurant and Bar, 2 Victoria Avenue, Wanganui
South Island	Next Meeting TBA	TBA

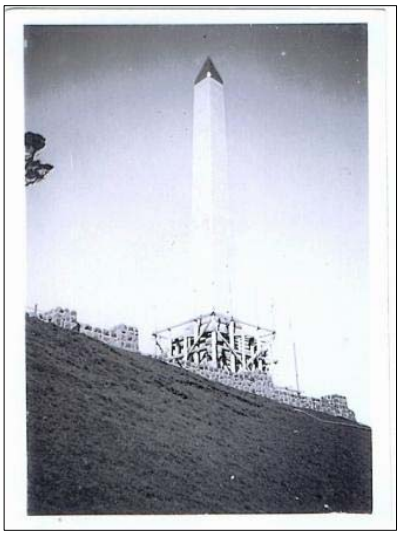
THE OBELISK ON THE SUMMIT OF ONE TREE HILL

The obelisk was completed on the summit of One Tree Hill by 1940, the Centennial year of the signing of the Treaty of Waitangi. The unveiling of the Obelisk was delayed until 1948, after World War two was over. Although it was constructed nearly 30 years after Sir John Logan Campbell's death, it fulfilled the terms expressed in his will and he had reserved money for that purpose.

The Obelisk is situated near Campbell's own grave, but it was not intended to honour him. It was built as a permanent record of his admiration for the achievements and character of the great Maori race. Campbell decided on the idea of an obelisk after admiring them during his travels in Egypt.

The obelisk was designed by architect Richard Atkinson Abbott. The obelisk is 33 metres in height and is built from reinforced concrete covered in Coromandel tonolite. The base is formed from rusticated basalt blocks and rubbed stone wedges.





CERTIFICATE IN CONCRETE TECHNOLOGY AND CONSTRUCTION

The former London City Guilds Concrete Technology courses run in New Zealand since 1985 are now in the process of being changed over to the Institute of Concrete Technology (UK).

The change means that the syllabus of the two principal parts, i.e. General Principles and Practical Applications are being updated.

The new syllabi require a new set of training course notes for each part.

This year the training will be provided as follows:

Part 1: General Principles

This course (new syllabus and examination) can be studied using the organisation, the Advanced Concrete Technology's web based course.

Enrolment can be made via the web site - www.act-course.co.uk - and clicking on *Intermediate Level Concrete Technology and Construction*.

Registration is direct with the UK organisation. However, New Zealand examinations, to be held in May 2011, will be organised by the CCANZ.

Part 2: Practical Applications

This course (old syllabus and examination) can be studied using the correspondence course provided by the CCANZ. Registration can be organised by contacting Angelique at Angelique@cca.org.nz.

The fee will be $1,100 plus GST.

The examination in May 2011 will be arranged in the main centres and an additional fee will be charged at examination registration time (which may be approximately $200.00 plus GST). The Part 2 examination in May 2011 will be the last based on the old syllabus.

As from 2011, both courses will be available from ACT based on the new syllabi.

For information on the Part 1 course visit www.act-course.co.uk.

For further information on the Part 2 course content, contact David Barnard on 0-4-232-6684.

To apply to be registered for the Part 2 course, please contact Angelique Van Schaik on 0-4-499-8820.

CCANZ ONE DAY CONCRETE COURSES

The Cement & Concrete Association of New Zealand is running a set of one day Concrete Courses in November this year. The course dates are as follows:

Monday,
22 November:
Introduction to the Concrete Industry.

Tuesday,
23 November:
Concrete Testing.

Wednesday,
24 November:
Concrete Technology.

Registrants have the option of selecting one or any combination of courses over the three consecutive days.

The venue for this set of courses is to be Lecture Theatre Room E10, Ground Floor, Civil Engineering Building, University of Canterbury, Creyke Road, Ilam, Christchurch.

Places are limited to 15 people, so it is essential that if you would like to attend any of the courses, you must book your place early.

If you would like to see a copy of the the course outline, or if you are interested in attending any of the one-day courses, please contact Angelique Van Schaik at CCANZ on phone 0-4-499-8820 or email her at admin@cca.org.nz.

DID YOU KNOW?

Did you know that the term 'concrete' is a fourteenth-century derivation from the Latin ***concretus*** meaning *'grown together, hardened'*.

EECA BUSINESS WEB LINK

The Energy Efficiency and Conservation Authority (EECA) has launched a new business website: www.eecabusiness.govt.nz. This link provides an enormous range of information, resources and tools aimed at ways businesses can save money and improve energy efficiency.

We suggest you take the time to have a look for yourself. There is a huge range of information, resources and case studies on the EECA site including information about managing vehicles and government grants and funding.

If you require For further information contact Gina Garvey at EECA Business on 021-380-330.

MALEME STREET PUMP STATION

Client: Tauranga City Council
Location: Tauranga
Engineer: URS
Main Contractor: Brian Perry Civil
Value: $6.6 million
Completed: June 2010

Tauranga has a fast-growing population and current wastewater facilities will not be able to cope with future demand. To solve this, Tauranga City Council has developed the $106 million Southern Pipeline Project. The 20km pipeline will take sewage from Tauriko/Greerton to the Te Maunga Wastewater Treatment Plant. When the design and build tender went out for the Maleme Street Pump Station it was Brian Perry Civil Limited's $6.6 million solution which was accepted. The pump station consist of: a 1200 cubic metre underground storage tank; a 220 cubic metre pump well; a service building; and associated pumps, pipework, tanks and valves.

The pump station will work to pump wastewater along the new pipeline when the pipeline is completed in 2013. Before the Southern Pipeline is built however, the Maleme Street Pump Station will serve as an emergency store for overflow wastewater from the current strained pipeline system. It will act as a holding point for overflow before pumping it back into the existing system.

Part of the design solution was to construct a 20 metre deep secant pile wall around the site prior to excavation with the use of continuous flight auger piling (CFA). Over Two Hundred 750mm diameter piles were bored and filled with concrete as the flights were extracted from the earth. The piles were hit and miss hard and soft piles. A hard pile was bored between the soft piles which were a 10 MPa Flyash Concrete, and over lapped taking a 150mm bite out of the soft pile either side. A 35 MPa Hard Pile Concrete with grout fluidifiers was pumped into this pile and when complete a 21 metre long, 8.5 tonne steel cage was lowered into the pile as wall reinforcement.

Supacrete Concrete Limited supplied the wide range of concrete to this project which along with the pile mixes included high performance sprayed and self compacting concrete's.