



AUKAHA RESILLIENCE

CETANZ

Civil Engineering Testing Association New Zealand

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CETANZ

NEWSLETTER

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MESSAGE FROM THE CHAIR

Hello and welcome to the first newsletter since our conference in August. We have committed to one a quarter.

This turned out to be a great success, attracting 120 delegates. Hobbiton was definitely a highlight for me, along with the quality of speakers. It was refreshing to see a mix of Senior and Junior members of the testing community along with some well respected industry leads in Civil Engineering in attendance.

Brigitte Sargent was also voted in as a life member which many would see as a well deserved honour given that she has put her heart and soul into the association over many, many years. As it was a voting year, some people in the standing committee decided not to run again in order for a fresh committee to.

This resulted in 6 new faces to the team with representation from no less than 8 companies.

This is a fantastic result and the new crew are willing to make some movements for the industry over the next two years.

I would like to thank the outgoing committee members *Brigitte Sargent, Francois Fonternel, Steven Anderson, Marco Holtrigter* and *Frank Hu* for all the time and effort that they have put into the assn. over the last few years. I am sure we will still be calling on you for technical input!

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Danny Wyatt
CETANZ Chair

CONTINUED MESSAGE FROM THE CHAIR

The positions on the committee have now been formed with myself continuing on as Chair, the following people complete the committee:

Portly Griffiths, WSP – Vice Chair.

Sarah Amoore, WSP – Secretary.

Vicky Henderson, Road Science – Treasurer.

Charlotte Mellar, Geotechnics – CPT Liaison.

Eric Paton, Geo Lab – Tech Group Lead.

Clark Yparraguirre, Geotechnics – Careers and Events Lead.

Brendon Muir, Fulton Hogan – Tech Group.

Rob Damhuis, Waka Kotahi – Tech and Careers Groups.

Steven Franc, Fulton Hogan – Careers and Events.

Benjamin Warne, Fulton Hogan - Careers and Events.

Charlotte Harrison, Winstone Aggregates – Tech Group.

Christmas now approaches and with that, the promise of comparatively sunnier weather than what we have had in the preceding 12 months. During this busy time for us all Portly is hitting the vibe hammer test with Waka Kotahi so watch out for drafts of this coming out.

In addition, it was suggested that we may want to welcome Fijian Labs into the CETANZ fold and initial discussions around this are currently happening. Conference attendees from Australia inspired by the success of the conference have also garnered interest in a sister assn. over that side of the ditch and our position on this is to give them as many insights into our model as possible. Eric has a list of items to work through which includes way more proficiency testing due to kick off in the new year.

Have a safe and happy Xmas and New Year period with your family and friends and we look forward to working with you all in the new year!



INCIDENT NOTIFICATION

All teams working on external sites or around external contractors.

A Laboratory team were engaged to conduct BEAM testing for an external client.

The team of two were required to complete BEAM testing for a site that also had an external drainage contractor dewatering a new sewer manhole that required benching for commissioning.

The Lab team had completed their first BEAM run and while realigning to conduct their second run, the Lab technician has stepped backwards and inadvertently directly into the open manhole. The manhole was approximately 2m deep and fortunately was holding water at the time of the incident. A ladder was required to assist the technician out of the manhole.

The external drainage crew onsite were taking a break while they waited for the dewatering to be completed. As shown in the picture below, there was inadequate controls around the fall risk.

The technician was taken to the medical centre for precautionary assessment. Fortunately there were no immediate injuries sustained and the technician was cleared to continue work.

The picture below was retrieved from the trucks dash cam footage and highlights the controls that were in place at the time.



2023 CETANZ CONFERENCE

This year's conference theme represented the idea of Aukaha Resilience through the Kauri tree. The Kauri tree is a tree that emanates strength It demonstrates the power of evolution and the ability of living things to adapt to unexpected challenges.

Before European settlers arrived in New Zealand the Kauri tree was used to craft waka. Aukaha comes from a traditional Kāi Tahu tauparapara or poetic chant, recited by our ancestors as they tightened the lashings of their waka before setting out on a journey. It is about uniting and binding together to meet the challenges

The civil industry not only ensures the resilience of our infrastructure, but also provides a pathway for people to develop personal resilience and adaptability to change.



ROB DAMHUIS—INTERACTIVE CONFERENCE SESSION

A plenary session workshop was held on testing within the B-series as a lead in to getting underway with the series update, and to inform changes in the NZ pavement guidelines which are becoming more prescriptive around investigation and testing requirements as insitu and laboratory testing is the precursor to treatment selection, material characterisation, and ultimately risk management within the pavement design and construction process.

Rob Damhuis presented the present B-series testing requirements and lead into a few of the changes needed and broader testing challenges experienced by laboratories. Various subgroups then debated these challenges. The following suggestions for improvement were received, and are being assessed by NZTA for inclusion into future updates:

B-Specs:

The laboratory industry requested that more clarification be included on the minimum requirements to be included for Engineers or Contractors as to the instructions to the lab (i.e. a lab instruction spec) so that labs know what they are getting paid for. Other suggestions included specifying a randomised sampling technique to be followed, sampling techniques for different treatment types, test frequencies and test methods for Solid Density (SD) which is to be tested SD, not assumed, clarifying responsibilities of the “Engineer” vs design engineer or construction manager, and ideally aligning NZTA specs and Local Government specifications, with allowances for regional materials to save cost and ambiguity. A suggestion was made to include a relative density compliance table based on the Solid Density in the B-specifications especially for non-cohesive materials.

Test Methods:

It was noted that the NZS4402 (1986) vibe hammer, heavy hammer and standard compaction test methods are seriously overdue for update, and the following suggestions were made for improvements.

NZ Vibratory Hammer:

There are several improvements required to standardise the equipment and procedures. The equipment improvements include vibratory hammer specification, stand, mould, base plate and compaction foot tolerances. The procedural elements included procedures for on-site field compaction (although it may need some research on the compaction anvil and stand), curing times for various material types, and sample preparation.

Indirect Tensile Strength:

The ITS test takes up to 1 hour to complete the 6 test points. This potentially leads to test repeatability issues in that the test time plus sampling and travel time often results in the last samples being compacted after the specified time limits. This raises the question on whether a factor should be applied to allow for this, and whether two Moisture Content samples should be taken (i.e. from first mould compacted, and then on last mould). This test also has similar issues to the NZ vibratory test, and a proposal was made for the use of a gyratory COMPACTOR (perhaps the Superpave compactor) to be used for UCS and ITS samples.

Maximum Dry Density test:

Several procedural improvements were recommended, including an increase in the number of points for MDD from 5 points to 6 points (3 x dry, 3 x wet), including the Air Voids (0, 5 and 10%) lines on the graph which will require testing for Solid Density

Solid Density test method:

As clients (contractors and consultants) are not paying for the SD to be done, labs are not doing it and placing a disclaimer in test report. The test frequency for the SD should therefore be specified more clearly in the specifications. There may however be a few challenges as the procedures for the SD method are critical when using additives, especially in the case of bitumen stabilised material where the results are often inaccurate due to the bitumen encapsulated fines. An alternative method may therefore be required for FBS, perhaps the asphalt test method.

California Bearing Ratio:

Suggestions included better definition of the test method to be used for the subgrade and pavement material types, and a procedure to ensure the moisture content at compaction for subgrade samples is 80% to 100% saturated.

NDM Direct Transmission (NZS 4407 Test 4.2):

As the test method requires taking water contents to comply, a suggestion was made for the B-series specifications to clarify or reduce the number of moisture content samples to be taken, i.e. a procedure to determine whether they should be in or outside of the wheel paths, or potentially that the moisture correction used at plateau density stage may be applicable for compliance testing.

General comments:

Several other improvements were suggested and are listed below:

Changing the test methods to ensure a similar sample preparation for each of the Solid Density, MDD, CBR, UCS and ITS which each have different scalping requirements and often different moulds.

A suggestion on the creation of an M4 database of test results for M4 AP40 so that the variability of the test results (MDD/OWC, PSD, SD, etc) can be assessed for use. This will reduce the amount of testing carried out and make it easier to assess for use.

NZTA thanks the industry for these insightful comments which will be used when we update the B-series. In the interim NZTA have embarked on a few initiatives to improve the testing outcomes such as an updated vibratory hammer test method, inclusion of sampling in the laboratory's IANZ Schedule of Accreditation, the development of a stratified random sampling method to be followed for choosing sampling and test sites, and improvements in the investigation and testing specifications.

CETANZ CONFERENCE AWARD WINNERS

Samantha Higgins

EMERGING TECHNICIAN AWARD



Who do you work for and how long have you been with the company?

I work for HEB Construction on the Te Ahu a Turanga Alliance project and I have been with them for 2 years and 9 months.

What does your job entail?

I started off working in the lab doing soils testing like MDDs and then spent a couple of years in the field doing testing such as NDMs. Now I'm back in the lab training up to become a supervisor, so now I am spending more time doing paperwork and learning about the quality systems.

How did you get into the civil engineering testing industry?

I was working New World in Feilding and Stacey Walker (who was the manager at the time I was hired) came in to do her weekly shop. We had known each other back up in the Waikato as we attended the same gym and she asked if I was interested in a new line of work, so I applied for it and here I am now.

What are your favourite aspects of working in the industry?

My favourite aspect so far has been learning what processes go into making a road because you don't get to see all that as a member of the public. Also working on a major project has been a cool first place to come into the industry and learn because you get to see so much, and you also get to see the project grow.

What is the best advice you can give to someone who just started their career?

Don't be afraid to ask questions.

Tell us something about you that most people don't know.

I enjoy competing in cross fit competitions.

CETANZ CONFERENCE AWARD WINNERS



**TECHNICAL EXCELLENCE
AWARD
Rachel Smith**

**TECHNICAL EXCELLENCE RUNNER
UP**

Ahurei Manukau Papa



**EMERGING TECHNICIAN RUNNER
UP**

Michael Taylor



CETANZ MEMBERSHIP NEWS

BRIGITTE SARGENT

LIFE MEMBERSHIP



It was Brigitte and Jayden catching up that inspired a conference for the Civil Engineering Testing Industry in 2006. Brigitte then became part of the founding committee for the Civil Engineering Testing Association of New Zealand (CETANZ).

Since then Brigitte has been especially involved in the Careers and Events Working Group and assisting the CPT Working Group to get up and running. Brigitte has a wonderful way with people and has been great at getting support for CETANZ and sponsorship for our conferences and activities.

Brigitte is also skilled at getting things done, there is a lot of work in organising conferences and events and she is more than happy to jump in and do the hard work. Her tenacity, experience and contacts also ensured the creation of the CPT Working Group was successful and easier for those keen to get it up and running.

CAREERS AND EVENTS GROUP UPDATE

As we approach the final stretch of the year, we take great pleasure and a sense of accomplishment in reflecting on the success of our recent biennial conference. The event united our community, fostering the celebration of achievements, the sharing of knowledge, and the collaborative spirit that defines our industry. Drawing inspiration from these experiences, we set our sights on the road ahead.

Our recent conference went beyond a mere gathering; it was a celebration of the achievements and successes within our industry. Additionally, it provided a platform for knowledge-sharing through insightful presentations, engaging discussions, and collaborative workshops, continuing to propel our industry forward in our pursuit of continuous improvement in civil testing. To top it off, the conference dinner at The Hobbiton added a delightful touch of fun and camaraderie to the overall experience.

As we gear up for an exciting chapter ahead, we're thrilled to share our upcoming plans.

Understanding the importance of fostering strong connections within our community, we're organizing regional events in the coming months. These gatherings will provide a platform for local members to come together, share experiences, and strengthen their professional networks. These events will not only celebrate the diversity within our community but also create opportunities for collaboration on regional initiatives.

Stay tuned for announcements regarding specific dates and locations as we look forward to creating vibrant and engaging events tailored to the unique needs and interests of each region.

We're eager to curate valuable training sessions for our members, aiming to boost your technical know-how and business skills in civil engineering testing. Led by experts, the technical training will cover best practices, keeping you current in the field. The business-focused sessions will provide essential skills, from planning strategies to making effective decisions. Get ready to improve your skills and contribute to the success of our industry!

Keep an eye out for more information on the upcoming events and training sessions. We encourage all members to participate not only to enhance your personal and professional growth but also to foster a collaborative spirit within our group. Furthermore, we welcome your ideas and suggestions for future sessions, ensuring we address the topics that matter most to you.

As we look forward to a year filled with learning, collaboration, and shared success, we extend our sincere gratitude for your continued support.

Here's to the exciting journey ahead!

CETANZ CONFERENCE SPONSORS

We would like to take this opportunity to Thank our wonderful sponsors for a very successful conference.



Civil Engineering Testing Association of New Zealand

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