


concrete

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Kiwi keeps Taiwan's high speed rail on track

New Zealander Paul Gurran has worked as a construction materials specialist on major projects from the Clyde Dam in New Zealand to the massive Xiaolangdi Dam in China.

Now he's facing new challenges in the construction of Taiwan's first-high speed railway which will connect the island's largest cities, Taipei in the north and Kaohsiung in the south. It will cover 345 kilometres, cost an estimated US$14 billion and use an estimated 18 million cubic metres of concrete.

The Taiwan High Speed Rail Corporation (THSRC), founded by some of Taiwan's leading companies in 1998, was granted a 35-year franchise to design, finance, construct and operate the railway.

The current express train service takes 3 hours and 50 minutes, while the new high-speed service will take just 90 minutes.

The Taiwan Government has contributed the land for the railway and the civil tunnels for the northernmost 17 kms, but all other costs and construction are the responsibility of THSRC, which has targeted the end of 2005 for opening.

Civil Infrastructure

The civil infrastructure for the project consists of:

- 39 kms of mined tunnel
- 24 kms of cut and cover tunnel
- 251 kms of viaduct
- 31 kms of earthworks

The civil infrastructure has been constructed under 12 separate, contractor, design and build contracts. These were awarded to different joint ventures consisting of local and international civil contractors, after a two-year period of prequalification, tendering and negotiation.

The size of the project with 314 kms of reinforced concrete viaducts and tunnels being constructed simultaneously in less than four years (from design through to final completion), is a feat unimaginable on a New Zealand scale.

With the completion of the infrastructure, six new stations, four depots/workshops, catenary systems,

The project includes 251 kms of concrete viaducts.

trackwork and rolling stock, including testing and commissioning, will be in place in two years.

The southern portion of the project alone involves construction of a 157 km continuous viaduct, across alluvial plains and built-up areas, believed to be the largest structure of its type in the world.

The key to ensuring the infrastructure - built by different contractors - is workable are specialist interface groups which make sure the different sections, once completed, are cohesive.

"This is particularly challenging when you consider that because of the tight timeframe the design, in many cases, was just 30 percent complete when construction began," Paul says. This means that the teams must plan ahead to identify any potential issues before they occur.

Some of the 12 contractors are using 30 metre precast spans, weighing around 1000 tonnes, which are then positioned on massive concrete piers, some with piles excavated up to 70 metres deep for support.

Various other methods are also used. Standard cast-in-place using scaffolding, balanced cantilever and "mobile shoring systems". The latter are huge collapsible steel forms, similar to tunnel liners, which span across several piers at once. Concrete is poured into the forms which are then moved by hydraulic systems to the next adjacent spans once the concrete has hardened and formwork released.

"The high humidity and warm temperatures create problems for the construction that we do not have in New

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WHAT'S INSIDE

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Cement & Concrete Association of New Zealand

Upfront "CONCRETE THINKING"

I recently visited The Concrete Centre in London, a new organisation formed to tackle the declining use of cement and concrete in construction throughout the British market. This trend was recognised by industry leaders who, under the leadership of the British Cement Association (BCA), agreed to form a collective working group to deal with the underlying issues. This group was known as "Concrete Thinking".

Significant research including the collective experience of the group concluded that to reverse this trend required a new and dedicated concrete body to integrate and draw together the various sector groups which had formed throughout the industry. This group would develop an overall strategy and implementation programme for regaining and growing the market for concrete in construction.

The Concrete Centre was officially launched on 4 September 2003 and is led by Chief Executive, Ian Cox. Currently there is a team of 37 staff which is due to grow to over 60 by 2007. Strategic activities include:

- industry/commercial structures;
- roading and related infrastructure; and
- the residential market.

The target audience for the output from this organisation are construction industry decision makers, including architects, engineers, quantity surveyors, owners and developers.

The parallels between CCANZ and The Concrete Centre are remarkable. Both organisations have, independently, identified similar trends and strategic issues along with recognising the designer community as key influencers in the use of concrete.

CCANZ has initiated a significant thermal research project with a London based consultant, which The Concrete Centre has agreed to co-fund, recognising the benefits of this work for the U.K. market. Our recent and on-going work with industry sector associations was also of interest. In Britain there are currently over 52 separate organisations or associations relating to the use of cement and concrete in construction. Integrating these under a common strategy is a mammoth task, we can be proud of our progress in this area in New Zealand.

Ian Cox has been invited by the Combined Industry Conference Organising Committee to address our conference in Queenstown during September of this year. He will be discussing the circumstances that led to the decline in the use of cement and concrete in construction in the United Kingdom and the strategies now being implemented to address these.

See International News Page 7.

Zealand," Paul says. There are however some advantages as well, with shorter cycle times for formwork stripping than would normally be achieved in New Zealand.

Paul's challenge is to ensure the materials used - including the concrete - are of the required standard to ensure the structure meets the desired design life of 100 years.

"The different contractors obviously want to ensure their operation is economical and my job is to ensure they are not tempted to reduce costs by compromising on the materials used in construction.

"To ensure this does not happen I spend a large portion of my time assessing manufacturers and their materials in close liaison with the main contractors," he says.

The scope and complexity of the project is a rewarding challenge for Paul Gurran. "It's incredibly stimulating because the project does not allow you to get into a comfort zone - you always need to be thinking and planning ahead."

Further information on the project can be found on THSRC's website at www.thsrc.com.tw

Trackwork

The mainline viaduct is generally 13 m wide with a double track at 4.5m centres. The design and construct trackwork contracts (five) were all awarded during the second half of 2002 to joint ventures consisting of Taiwanese, Japanese, European and Australian contractors.

Stations

For initial revenue service THSRC will have stations from north to south at Taipei and Panchiao (both existing stations), Taoyuan, Hsinchu, Taichung, Chiayi, Tainan and Tsoying. The design (and design modification at Taipei and Taoyuan) has been carried out by Taiwanese architects with specialist input from international consultants.

Depot and Workshops

THSRC will have depots and workshops from north to south at Wujih, Liuchia, the Main Workshop just north of Kaohsiung, and at Tsoying. Design was completed by international consultants with assistance from Taiwanese consultants.

Core System Contracts

The core system contracts involve the supply, on a turnkey basis, of 30 train sets (for initial service), communication, electrification, catenary systems, signaling and training and have been awarded to companies using Japanese technology.

Ancillary Contracts

Ancillary contracts such as the Automatic Fare Collection and Depot Equipment have or are in the process of being awarded to joint ventures involving contractors from Taiwan, France, Italy, Australia, and elsewhere.

Moisture in concrete floors: overcoming the potential problems

by Deryk Simpson, *The Concrete Society*

This article provides guidance to designers, specifiers and contractors on moisture and concrete floors. Moisture in floors is essentially a design and specification issue and is largely unrelated to construction and workmanship issues. Any potential problems arising from moisture in floors can be eliminated before construction by anticipating the problem and designing/specifying it out.

Why moisture matters

There are a number of reasons why moisture in floors or, more correctly, moisture evaporating from floors, may be significant.

Moisture can:

1. Damage some types of floor covering
2. Affect some flooring adhesives (referred to here as moisture-sensitive adhesives)
3. Cause bubbling, blistering or delamination of flooring materials (this is usually a result of moisture sensitive adhesives).
4. Affect or damage some types of self-levelling or smoothing underlays
5. Affect or damage some types of screeds
6. Affect or damage wall or skirting materials or finishes.

Measurement of floor moisture

The preferred test for assessing floor moisture is the insulated hygrometer procedure. Details of the test are given in BS 8203: 2001[1]. The test measures the relative humidity (RH) of a boundary layer of air above the floor surface, and is effectively 'measuring' the moisture evaporating from the floor, rather than its moisture content.

The test has drawbacks. The equipment needs to be left in place for some time to obtain an equilibrium reading. Hygrometers can be inaccurate and require frequent recalibration. There is also some question about the test validity on thick slabs, because of the difficulty of obtaining equilibrium in a reasonable time and the effect of boundary conditions surrounding the small insulated box.

The problem

The problem usually starts when the flooring suppliers state that their materials can only be laid on floors where the surface RH is 75% or less, measured by the BS 8203: 2001 test or a similar clause to this. This conservative RH value was determined many years ago. Some regard this as unrealistically low for modern site timescales and many modern flooring materials[2].

However, it still continues to be used by the industry. It will usually take many months for a slab to dry sufficiently to give a top surface RH of 75%, even in a well-ventilated, weather-tight building. In practice, it is highly likely that a normal concrete slab will not have enough time to dry out between construction and the laying of the floor. This cannot be regarded as a workmanship matter. As the problem is inevitable, it must be designed or specified out, using the options given in Table 1.

Moisture sources

External moisture

Water can enter when a slab is rained upon or soaked by leaking services or when moisture ingress from below takes place. Usually,

	Options for reducing risk of floor moisture problems	Suitable for an external source of floor moisture?	Suitable for an internal source of floor moisture?
1	External DPM/VPM	Yes	No
2	Specify non-moisture-sensitive floor finishes (e.g. power-trowelled concrete, dry shake finishes, etc.)	Yes However, the effect of moisture in the building environment should be considered.	Yes
3	Allow the concrete and/or screed to dry out naturally.	No	Yes, theoretically. But it is slow and usually impractical.
4	Specify non-moisture-sensitive adhesives.	Yes, a good method if flooring itself unaffected by moisture. It may cost less than other options.	Yes, a good method if flooring itself unaffected by moisture. It may cost less than other options.
		No, if flooring itself is affected by moisture.	No, if flooring itself is affected by moisture.
5	Specify low water/ cement ratio concretes or screeds (which dry rapidly by self-desiccation).	No, generally. But such concretes can be very impermeable and may sometimes be suitable.	Yes. A good method that may cost less than other options.
6	Specify/use a surface DPM/VPM.	Yes. Care will be needed in detailing at slab edges and joints to avoid bridging effects.	Yes. This option could be more expensive.
7	Keep the floor dry after construction.	Vital for options 1, 4, 5.	Vital for options 3, 4, 5.

Table 1: Summary of options for dealing with moisture.

…continued on page 4

moisture from below will be from underlying wet ground. However, there is a risk of upward moisture diffusion from areas of high humidity below a slab, e.g. kitchens, laundries, showers, etc.

A slab can absorb water both by capillary migration (e.g. rising damp) and vapour diffusion. Designers usually consider the risk of rising damp, from a high water table, for example. However, they may sometimes overlook the risk of vapour diffusing into the slab from damp ground, even if the water table is some way down.

Inherent internal moisture

Only a proportion of the original water content in fresh concrete will be taken up by hydration, thus leaving 'free' water, that is lost when the floor dries out. It can take a long time for this moisture to evaporate sufficiently to give a surface RH of 75%. This is particularly true of single-sided slabs, e.g. ground slabs and slabs on permanent formwork. It is generally the inherent moisture in slabs that offers a potential problem, mainly because of the slow rate at which concrete dries on site.

Reducing potential problems from moisture

External moisture

External moisture is theoretically a major problem, as often the 'reservoir' can be large, giving the potential for moisture problems over many years.

If there is a risk of water or vapour migration through a slab from the ground below, a damp-proof membrane (DPM) and/or vapour-proof membrane (VPM) should be provided. Guidance on damp-proofing of basement floor slabs is given in BS 8102: 1990 *Code of practice for protection of structures against water from the ground*[3] and on damp-proofing concrete ground floors in CP102 *Code of practice for protection of buildings against groundwater*[4] and CCANZ IB14[5].

Note that CP102 states that, for some situations, a normal polythene slip membrane below a slab may not always provide an adequate level of resistance to water vapour transmission.

Inherent or internal moisture

Most of the strategies listed below relate to design and specification, not to construction. The design team should consider the options carefully and choose which to specify. Alternatively, several options could be chosen and given to contractors for pricing. The final choice can then be made partly or wholly on economic grounds.

Use finishes not sensitive to moisture

Finishes not affected by moisture could be specified - e.g. power-trowelled concrete, dry-shake finishes etc.

Allow the concrete and/or screed to dry out naturally

Forced drying with heat, extra ventilation and/or dehumidification may help, but for most schemes, the drying option should not be considered as a practical solution.

Use adhesives not sensitive to moisture

If sheet materials (e.g. vinyl) that are themselves moisture-resistant are specified, the potential problem is usually that of moisture-sensitive adhesives. If non-moisture-sensitive adhesives are specified, the intended suppliers of the flooring materials must be asked whether their materials are affected by moisture and may be used with non-moisture-sensitive adhesives. The choice of flooring material could be influenced by its resistance to moisture and compatibility with non-moisture-sensitive adhesives.

Unfortunately, the choice of non-moisture-sensitive adhesives is not wide. This option is generally not suitable for moisture-sensitive floorings, unless the adhesives layer itself acts as a DPM/VPM.

Low water/cement ratio concrete and screed materials

It is possible to use 'special' concretes or screeds that 'dry out' quickly and these materials usually contain expensive plasticising admixtures and sometimes other admixtures, such as silica fume. These are usually materials with low water/cement ratios that effectively self-desiccate.

Surface DPM and/or VPM materials

The surface of the concrete can be covered by a DPM/VPM to prevent moisture leaving the slab and affecting moisture-sensitive-adhesive flooring. This is probably the most common way of overcoming the 'problem' of surface RH readings above 75%. It can be costly because, in addition to the DPM (typically two coats), the slab will often need to be prepared before the DPM is applied and require a smoothing underlay before the floor is put down.

Concluding remarks

What a contractor does on site does not significantly affect the ability of a slab to dry out within the contract period. The design team must consider the potential problems of moisture arising from a floor on finishes and economic ways to overcome these problems, so they do not occur in practice. Passing the problems and costs on to the contractor at construction stage is unfair as the issue is one of design and specification, not workmanship or quality control.

References:

1. British Standards Institute. (2001). BS 8203: 2001. *Code of practice for installation of resilient floor coverings*. London: Author.
2. Levitt, M. (January 2002). Moisture in concrete and the performance of permeable floor coverings. *Concrete : for the construction industry*, 36(1) 43-44.
3. British Standards Institute. (1990). BS 8102: 1990. *Code of practice for protection of structures against water from the ground*. London: Author.
4. Office of the Deputy Prime Minister. (1973). *Code of practice for the protection of buildings against water from the ground*. London: The Stationery Office.
5. Cement & Concrete Association of New Zealand. (1994). *Damp proofing of concrete* (Information Bulletin: IB 14). Wellington: Author.

Cook's Clinic...

Slump- its relevance in today's world

The slump test has been a part of the quality control of concrete construction for many many years. The test is simple but its significance is not always universally understood. In this article we briefly explore the slump test, its purpose, and why it is sometimes specified.

Figure 1 illustrates a slump test. The test measures the consistence of the concrete, the ease with which it flows. Although consistancy is a different characteristic from workability (how easy it is to place) the two terms are often confused and merged into the "slump" of the concrete. While the test is relatively simple, it needs to be performed properly to be of value. It also needs to be recognized that slump varies with time. The greater the amount of time between batching and testing the lower the measured slump. The slump may reduce by 1mm per minute dependent upon temperature and admixtures.

Concrete with the same slump will not always have the same workability. For instances a 100 mm slump concrete with 19 mm aggregates will have different workability characteristics to that of a 40mm aggregate concrete with the same slump. Workability is influenced by water content, cement content, aggregate grading, shape and size.

The slump test has two very useful functions. Firstly, it can be used as a preliminary assessment of characteristics of concrete when designing mixes. The amount of slump, how it fails, and the how the cone behaves when tapped on the side gives some indication of the workability, cohesiveness and segregation characteristics of the mix. The second use is as simple check to measure the consistency of successive batches delivered to site. Variations of slump outside the tolerances stipulated in NZS 3109 may indicate changes in the batching and mixing system.

In many text books, and in the superceded version of NZS 3109: 1987, tables are provided that state the maximum nominated slump values for beams, columns, floors etc. In the 1997 version of NZS 3109, the slump tables were deleted. They were deleted because the values suggested did not really reflect modern construction techniques, with floors being constructed in large pours, and admixtures being used to improve workability. Recommended practice now is for the specifier to require that the mix designer in association with the contractor be responsible for the workability of the mix. The slump test still has a place as a quick and easy pre-pour test for checking consistency of each batch.

Relationships between slump and shrinkage characteristic are not particularly strong. If shrinkage is an important characteristic of a component it is better to specify the target ultimate shrinkage strains and testing in accordance with AS 1012.13: 1992. The specification also needs to nominate the date at which the strains shall be achieved as the test simply measures the strains at 7,14,21,28 and 56 days from the commencement of drying. These tests are however relatively expensive and adequate lead time will be required to conduct them.

Industrial floors are a typical area where designers often focus on drying shrinkage. Unless the floor is designed to be continuously reinforced, the focus on drying shrinkage is probably inappropriate. A CCANZ study conducted in 2000, revealed that the most common defects in slabs were those associated with early age issues such as plastic cracking, early age thermal contraction, and delamination. Concrete with a low slump has a greater risk of these issues occurring due to their low bleed characteristics. The risks of specifying low slump concretes for floors is a much greater probability of placing and early age cracking problems, the reward is that the joints will probably open up a little less.

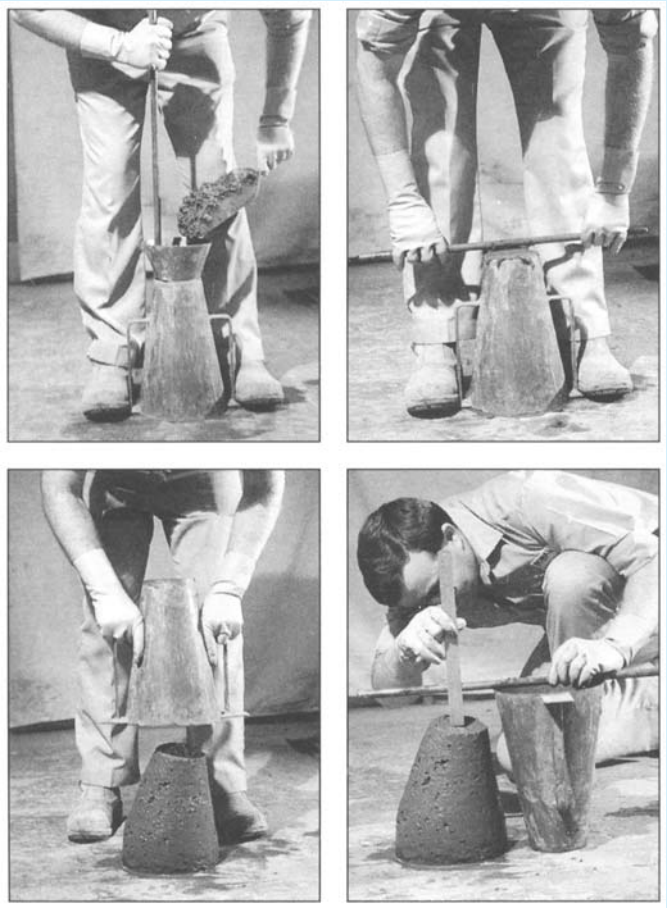

Figure 1. Slump Test

News...

New Zealand hosts international concrete conference

New Zealand's concrete industry in partnership with the American Concrete Institute (ACI) will host an international concrete industry conference in September this year.

The three day conference at the Rydges Lakeland Resort, Queenstown from 16-19 September is expected to be of interest to architects, contractors, consulting engineers, academia, local body engineers, project managers and all concrete industry suppliers.

The local industry will be represented by the Cement & Concrete Association of NZ, NZ Concrete Masonry Association, NZ Concrete Society, NZ Ready Mixed Concrete Association and Precast New Zealand Inc.

The conference programme will cover all aspects of concrete construction and associated technologies including research, design trends, marketing opportunities, recent developments, construction, materials, methodologies, environmental and new issues for cement and concrete.

Technical sessions will run from midday Thursday until Saturday, and will include a minimum of five international keynote speakers from both Europe and North America.

Saturday afternoon and Sunday will encompass a range of social activities taking advantage of Queenstown's spectacular scenery and attractions, and will culminate with a formal conference dinner and Industry Awards on Saturday evening at the Skyline Restaurant. There will also be a partner's programme available.

A Call for Papers has been distributed throughout international and domestic markets. All papers accepted for the 2004 combined industry conference will also be eligible for the NZ Concrete Society's 'Sandy Cormack Award'. The author judged to have presented the best paper at the conference will receive $1000 and an award certificate.

For further information please contact:
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Updated guide to reducing alkali silica reaction

An updated guide to minimising the risk of damage caused by alkali silica reaction (ASR) in concrete is now available.

The 80-page guide includes recommended practices for reducing ASR, an assessment of environmental effects on ASR and principles for minimising the risk of ASR.

In the preface to the report it is noted new studies had included the contribution of alkalis from aggregates, the applicability of tests for assessing aggregates and the fact that many precautions only alleviated the reaction without preventing it.

Copies of the guide are available from the CCANZ website at www.ccanz.org.nz

New Plymouth's new concrete promenade

Locals and visitors to Taranaki can now promenade with the best in the world on New Plymouth's waterfront foreshore. The foreshore development, which consists of a concrete walkway with a timber deck and boulders leading up from the sea, has offered access to what was previously a mostly unattractive and inaccessible waste land. Stage Four of the project included, a one kilometre section of the promenade and a 5.5 metre high retaining wall. Stresscrete supplied the precast concrete panels for this stage, produced with Golden Bay Cement. The retaining wall and walkway section, located at the northern end of the foreshore development, is often subjected to high seas, so concrete provides a high strength, resilient and durable material.

The seaside promenade now available New Plymouth residents and visitors

Precast Concrete Handbook Seminars

A seminar series to mark the launch of the award-winning Precast Concrete Handbook in New Zealand is being held by The Cement and Concrete Association of New Zealand (CCANZ) and Precast New Zealand (PCNZ).

The handbook, published by the National Precast Concrete Association Australia and the Concrete Institute of Australia, is supplemented with a Commentary for New Zealand Users, produced by CCANZ and PCNZ. It recently won the prestigious Award for Excellence - Technology at the 21st Bicentennial Conference of the Concrete Institute of Australia.

The handbook recommends good practice in precast construction for designers, engineers, architects, constructors and students, and has been reviewed and commented on - chapter by chapter - by New Zealand industry professionals.

Selected sections of the handbook will be presented at the seminars by New Zealand industry representatives. These are Morten Gjerde, a CCANZ fellow, from Victoria University of Wellington, Dene Cook and Alan Kirby from CCANZ, and Keith Norgate from Stresscrete.

The seminar dates and venues are:
6 April 2004 - Wellington, Duxton Hotel
7 April 2004 - Auckland, Ellerslie Convention Centre
8 April 2004 - Christchurch, Centra Christchurch

The handbook features 12 chapters ranging from precast concrete applications through to handling, transportation and erection. Each person participating in the seminar series will receive a free copy of the handbook and commentary.

For more information and to register contact precast@bluepacificevents.com or 09 536 5410.

International news...

UK concrete industry sets up new organisation

The 5-billion-pound UK concrete industry has newly established 'The Concrete Centre' to provide a focal point for the industry.

The centre was instigated after a strategic review by the industry to examine how concrete design and construction could be more effectively supported.

Writing in the UK magazine Pave-it, Centre director Ian Cox says the new organisation aims to play a pivotal role in bringing the many sectors of the concrete industry together.

"Faced with increased competition from other structural materials and products, sales of cement and concrete in the UK have not been growing how they should in the UK," he said.

The UK's use of concrete is 60 percent of the European Union average and 70 percent of the United States.

"Many people believe the reason for the lower uptake of concrete construction, compared with other construction materials, is that concrete has not had a strong central focus resulting from a more unified and well-funded approach," he said.

Funded by 15 major cement and concrete organisations, The Centre works alongside concrete industries as well as the well-established specific product associations.

The centre's emphasis is on partnership and cooperation to fully maximise the total marketing and support services of the concrete industry. It seeks to ensure an integrated approach to the wide range of technical support, research, education, training and information services.

"This is not another trade organisation but embraces the principles set out in the 'Rethinking Concrete' and 'Accelerating Change' reports," Mr Cox writes.

These include reduction of costs, assistance with innovation and integration of the supply chain. "It aims to provide a 'one-stop-shop' for the construction industry that in addition to its own levels of concrete expertise and knowledge is able to direct enquiries to the right person at the right time."

This will be achieved through a number of services including a national helpline for questions relating to the design, use and performance of concrete; a network of regional offices providing expert assistance and advice; and an education and training programme.

A key role for The Centre is as a research facilitator providing a mechanism for research to be disseminated to the construction industry so the benefits of good practice and performance improvement can be applied on site.

Other roles include provision of design guidance, and a programme of events, lectures and exhibitions.

For more information on the activities of The Concrete Centre visit www.concretecentre.com.

Sound barriers double as art

Concrete panels imprinted with figures of pelicans and water lilies are providing Louisiana residents with respite for the ears and eyes.
The Louisiana Department of Transportation in conjunction with the Federal Highway Administration has commissioned sound barriers to protect residential neighbourhoods from traffic noise along two interstate highways.
Meanwhile new barriers designed for the New Orleans area will feature images of palmetto plants.

Sustainability for paving

Sustainable Urban Drainage Systems (SUDS) is increasingly being recognised in the UK as the means to manage surface water.

SUDS covers a range of techniques such as swales, filter strips, basins and ponds - as well as concrete block permeable pavements (CBPP).

CBPP was developed in Germany more than 20 years ago and despite being introduced to the UK more than a decade ago has largely been limited to private and small scale areas.

With the assistance of renewed focus from the industry and other organisations a 24-page Code of Good Practice has been developed for the industry.

For more information on the guide go to www.paving.org.uk.

NEWS from the ASSOCIATIONS

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DIARY:

2004

March	
18	PCNZ Executive Meeting, Tauranga
23	CCANZ Board Meeting, Wellington
24	NZRMCA Meeting, Wellington
May	
18	CCANZ Board Meeting, Auckland
19	NZRMCA Meeting, Auckland
20	PCNZ Executive Meeting, Auckland
June	
3	NZCS Council Meeting, Wellington
July	
22	PCNZ Executive Meeting, Auckland
August	
4	NZRMCA Meeting, Christchurch
19	NZCS Council Meeting, Wellington
September	
16	CCANZ Board Meeting & AGM, Queenstown
16	PCNZ AGM, Queenstown
16-19	Combined Concrete Industry Conference, Queenstown

New Council Members — NZCS

Stefano Pampanin from the University of Canterbury and Peter Smith from Spencer Holmes Limited have been co-opted to the NZ Concrete Society Council. Stefano Pampanin is one of the winners of the *fib* 2003 diplomas for younger engineers in the research category and presented his paper 'Alternative Design Philosophies and Seismic Response of Precast Concrete Buildings' at the *fib* Technical Activities Workshop in Athens.

Specifying Concrete for Performance Seminars — NZCS

The 2004 NZCS seminar programme commences early May with a seminar series 'Specifying Concrete for Performance'. Seminar dates and locations are Wellington, Wednesday 5 May; Christchurch, Thursday 6 May; Rotorua, Tuesday 11 May; Auckland, Wednesday 12 May and Thursday 13 May.

The presenters are Andrew Dallas, courtesy of Allied Concrete, Derek Chisholm, courtesy of BRANZ and Chris Munn, courtesy of CCANZ. A seminar brochure and registration form with comprehensive details on the seminars will be circulated to the industry closer to the time. As per normal attendees will be able to claim CPD points.

Prison Contract — PCNZ

Last December a sub-contract was let to the Department of Corrections (Paremoremo) for the manufacture of precast panel components for a commercial complex in Auckland. Precast NZ advised the contractor of its dissatisfaction with this arrangement, as it considers that the Department of Corrections is operating from a privileged position in competing with precasters who must meet the demands of commerce in all forms. The association believes that if this type of competition is allowed to continue it will be detrimental to both the precast industry and eventually to the construction industry. The association is considering options to remove this form of competition from the market place.

Strategic Plan — PCNZ

The following are some of the major projects which are to be put forward and budgeted for in the 2004 - 2005 financial year:

Conditions of Sub-contract

A committee has been formed to develop benchmark conditions of sub-contract agreements, which considers the implications of the Construction Contracts Act and builds on the work of the NZ Building Sub-contractors association.

Joint Venture Project between PCNZ/CCANZ - CIBD Singapore Handbook development

Precast NZ and CCANZ are combining their resources for a further publication aimed at assisting designers of precast concrete in the building industry.

New Zealand Master Concrete Placers Association — NZMCPA

In November 2003 the NZ Master Concrete Placers Association met to discuss the future of the association and a new committee of nine will be taking the association forward in 2004. A conference to continue the momentum of growth is set for 19-20 June with all welcome. The conference will include the Mystery Creek Fieldays, hands on workshop sessions, AGM, discussion panel and the opportunity to discuss where the association is heading.

For application forms for NZMCPA please contact Michelle Rauner 021 669 560 and for newsletter and conference details phone Carol McMillan 06 873 4428.

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