



AUSTRALIAN
SOCIETY OF
BUILDING
CONSULTANTS

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A.S.B.C News

Issue 8

Autumn 2005

FROM THE EDITOR



Welcome to the autumn edition of the ASBC News.

In this issue the CSIRO have again contributed an article. We also include two new innovative products which will eventu-

ally find their way into the Australian construction scene.

In our March 2004 edition, Wendy Bacon provided an article on Expert Witness Reports. This issue has recently been highlighted with a Solicitor required to attend court to justify the changes that were made to an expert witness report in which he was involved. I would commend the report in the latest Building Dispute Practitioners' Society Inc. Newsletter of Mr Jim Delany S.C.'s talk given at the Annual General Meeting of the BPDS held on the 17th November 2004 per-

taining to this matter. The NSW Law Reform Commission has embarked on a review of the use and behaviour of expert witnesses including rules governing behaviour, after receiving a reference from NSW Attorney-general John Debus. It is required to report by the end of March.

The revised BCA 2005 which comes into force on 1st May 2005 is now available. The main changes are the introduction of energy efficient measures for Class 2, 3 & 4 buildings, provision for wire balustrades, and the amendment to the wet area requirements so that they are consistent with AS3740-Waterproofing of Wet Areas Within Residential Buildings. I would commend all members to acquire their updates.

I would like to thank the members who have contributed to this edition.

Robert Quick

FROM THE PRESIDENT



A warm welcome to all members for 2005. What about the first newsletter from our editor Robert Quick? I thought it was very good, thank you Robert.

Remember it can only stay that way with help from you, please contribute to it via Robert. Don't forget his e-mail address rquick@bigpond.net.au

Our first dinner meeting for the year was held on Tuesday April 12 at The Tudor.

The Committee has been active in various projects like the web site, pricing file etc and that will continue.

As this year unfolds it is already showing that a number of our members are very busy in the consultancy business and that there does not seem to be any reduction in inquiries.

We have a lot of work in front of us to keep up with what is happening in the building industry and the changes that keep coming. There will be various seminars, meetings etc. throughout the year run by various organisations (not just ours) that members can go to that are informative.

If you have something to say regarding the Society or ideas that you would like to put forward please send me details bldconsultant@optusnet.com.au or fax (03 9734 2290) or to any of the Committee.

Regards to all
Your President Charles

BUILDING CODE OF AUSTRALIA (BCA) 2005

Introduction

The 2005 edition of the Building Code of Australia (BCA 2005) was recently published and is available from the Australian Building Codes Board (ABCB).

BCA 2005 contains a number of changes from BCA 2004. For Volume One the main changes are the introduction of energy efficiency measures for Class 2, 3 and 4 buildings and new requirements for wire balustrades. For Volume Two the main changes are the introduction of provisions for wire balustrades and the amendment of the wet area requirements so that they are consistent with AS 3740 - Waterproofing of wet areas within residential buildings. In Volume Two, there have also been minor changes to the energy efficiency requirements in the Victorian variations and additions.

As Victoria already has a 5 star standard for Class 2 buildings, not all of the new energy efficiency measures for Class 2, 3 and 4 buildings will apply in Victoria. For Class 2 buildings, only the requirements dealing with air-conditioning, artificial lighting and power, access for maintenance and maintenance for energy efficiency installations will apply. The hot water supply requirements will not apply as this is covered by Victoria's plumbing legislation.

For Class 3 and 4 buildings, apart from the hot water supply requirements, the remainder of the new measures will apply. In Victoria, the requirements for Class 3 buildings also apply to Class 9c buildings.

Between 1 May 2005 and 30 June 2005, new Class 1 buildings will require a house energy rating (HER) of 5 stars or a HER of 4 stars providing the building has either a solar water heater system or a rainwater tank connected to all sanitary flush systems. From 1 July 2005, all new houses must have a HER of 5 stars and have either a solar water heater system or a rainwater tank connected to all sanitary flush systems. From 1 May 2005, the BCA energy efficiency measures for heating and cooling ductwork and central heating water piping in Class 1 buildings, will apply in Victoria.

A detailed summary of the new provisions in BCA 2005 is provided on the ABCB (www.abcb.gov.au).

Commencement

BCA 2005, including the Victorian energy provisions set out in the Victorian Appendix of Volume One and the Victorian Additions of Volume Two comes into force on 1 May 2005. Volume Two references Practice Note 2005-55, which sets out the transitional arrangements for the 5 Star standard. As outlined above, the higher standard will apply from 1 July 2005.

Under sub-section 10(2) of the Building Act 1993, if the relevant building surveyor (RBS) is satisfied, and certifies in writing, that substantial progress was made on the design of the building before a regulation commences, then the building regulation or amendment to the building regulation does not apply to the carrying out of that building work. The Building Commission considers that while the commencement date for the purposes of sub-section 10(2) is 1 May 2005 regarding the BCA 2005 generally, the commencement date is 1 July 2005 regarding the HER of 5 stars plus either a solar water heater or rainwater tank.

Therefore, in relation to the HER of 5 stars plus either a solar water heater or rainwater tank, if the RBS is satisfied, and certifies in writing, that substantial progress was made on the design before 1 July 2005, the HER of 5 stars plus either a solar water heater or rainwater tank, will not apply to the carrying out of that building work.

The principles of determining whether substantial progress has been made on a design are the same as set out in the Minister's Guideline 01-02 (downloadable in PDF format from the Building Commission—www.buildingcommission.com.au).

Should you have any queries regarding the BCA 2005 please contact Technical and Research Services on telephone 1300 360 380 or email technical@buildingcommission.com.au

(Q) How many architects does it take to change a light bulb?

(A) What's an architect?

NEW SYSTEM TO TURN SEWAGE EFFLUENT INTO IRRIGATION WATER

Australian scientists have developed a laboratory demonstration plant that has successfully trialed a new generation electrodialysis (ED) plant to recycle sewage effluent into water that is suitable for irrigation, industrial and third-pipe (for recycled water) use.

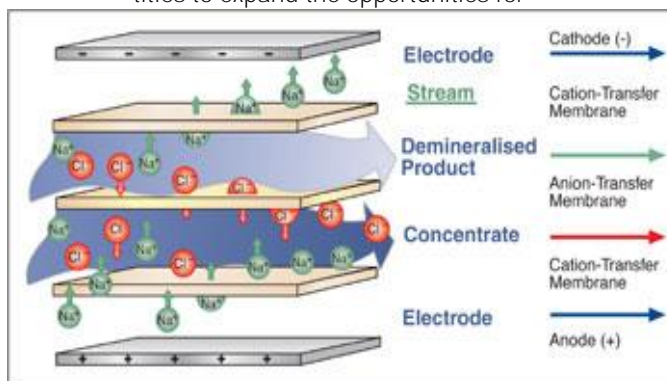
The CSIRO water-recycling project is sponsored by the Smart Water Fund for Melbourne (Australia) water utilities (City West, South East, Yarra Valley and Melbourne Water) and the Victorian State Government – see www.smartwater.com.au

Dr Russell Taylor of CSIRO Urban Water says, 'The advantages of ED are not widely realised. Whereas reverse osmosis (RO) is a recognised and preferred system for the desalination of seawater, ED is superior to RO when the levels of dissolved salts in the water are at the low end of the salinity scale'. Whereas RO involves high-pressure filtration, forcing water through pico-scale pores, ED is a low-pressure technique where ions migrate through ion-conducting membranes due to the passage of dc electric current. Because ED is not a filtration technique, its feedwater requirements, especially suspended solids, are generally less stringent than that for RO, ultrafiltration and nanofiltration.

Recent advances in ED technology have resulted in improved performance, lowered cost and extended life of plant and materials, enhancing its potential for use in desalination. ED would be expected to reduce the concentrations of all ionic constituents, e.g. sodium, chloride, calcium, sulphate, ammonium, phosphate and nitrate ions. A typical reduction in total dissolved solids for a single pass through an ED 'stack' is 50% which, for waste treatment plant effluent, would produce water regarded as suitable for general irrigation. ED also produces a concentrated waste stream that is high in salts like so-

dium chloride and nutrients like phosphate and nitrate. While disposal of the effluent, as at present, into Port Philip Bay, would not increase the present load, potential uses for this waste stream as a resource are also being investigated as part of the project.

The trials currently underway are using effluent from Melbourne's Western Treatment Plant (WTP) which contains approximately 1150 mg/L of dissolved solids, mainly due to high concentrations of salts. The aim is to remove substances in sufficient quantities to expand the opportunities for



Schematic of a typical electrodialysis stack

the reuse of this water. The high sodium content can make the water unsuitable for irrigation due to damage to the soil structure. The high chloride content increases the corrosivity of the water towards metals, even stainless steels, limiting its use in industry. By using ED to reduce the concentrations of dissolved salts and nutrients in sewage effluent, Class A and B products suitable for irrigation, industrial and third-pipe use (e.g. for toilet flushing) should be achievable. The water quality objectives for the project are:

- To reduce the total dissolved solids to approximately 500 parts per million (ppm).
- To reduce the ratio of sodium to calcium/magnesium (the sodium adsorption ratio) from approximately 9 to approximately 5 in order to prevent damage to soil structure.

Recent and continuing improvements in sewage treatment at the WTP have

resulted in effluent of the highest quality ever attained at the plant, and this effluent is well-suited as feed for an ED desalination plant. The set-up and commissioning of the ED laboratory test rig was done in stages. The test rig is portable and capable of remote operation, providing the option to use it on location at different sites. The results so far have been extremely positive, with reductions in salinity of from 1100 ppm to approximately 500 ppm being achieved with no obvious deterioration in performance over periods of several hours. Evaluation over longer periods will be

required to determine whether there is any requirement for finetuning the process for large-scale operation.

The plant in the CSIRO equipment is based on a proprietary ED stack. The stack has a platinised titanium electrode at each end, separated by nine pairs of cation- and anion-specific membranes. There are three

separate liquid circuits through the stack. At either end, there is an electrode stream that diverges before entering the two electrode compartments and converges on exit. In adjacent compartments between membranes, in parallel, one set of compartments is the demineralised/product stream and the other is the waste/concentrate stream. When dc current is passed between the two electrodes, cations and anions migrate from the feed/product/demineralised streams and accumulate in the adjacent waste/concentrate streams. The product stream is directed to the end use for effluent recycling, and the electrode and concentrate streams are progressively collected for reuse or disposal. Possibilities for use of the waste streams from the desalination process are under investigation.

For further information:

Dr Russell Taylor
CSIRO Urban Water
Tel: 61 3 9545 2919

MEETINGS 2005

The remaining meetings of the ASBC for the year are:

June 22nd Dinner Meeting--Tudor
 August 23rd Dinner Meeting--Tudor
 October 26th Dinner Meeting--Tudor
 December 7th Partners Night (TBA)

YOUR DETAILS

Have your contact details changed? If so please advise us:-

Phone: 03 9898 6244

Fax: 03 9898 4744

Email: info@buildspect.com.au

Post: ASBC, C/- P.O. Box 320, Box Hill Vic. 3128

SUBMISSIONS TO ASBC NEWS

If you have any articles that may be of interest to other members, they may be reprinted from other publications, or if you have the writing bug, please write about your experiences. All submissions to the Editor, Robert Quick:

Email: rquick@bigpond.net.au

Fax to 03 9537 2339

Post to: ASBC Newsletter
 C/- Robert Quick
 307 Beaconsfield Parade
 Middle Park Vic. 3206

The deadline for submissions to be included in the next newsletter (July) is:

Thursday 30th June, 2005



MEMBER PROFILE

In this edition we profile our past president - Bob Lorch, principal of Buildspect & Co Pty Ltd.



1. *How long have you been a member of ASBC?*

Since 1989.

2. *How long have you been a building Consultant?*

Since 1988

3. *What aspects do you specialise in ?*

Render, tiling, roofs, design issues, costings.

4. *What has been the highlight of your period as a building consultant?*

Winning several Supreme Court cases.

5. *What is the funniest situation that has occurred to you as a building consultant?*

Getting pushed into a Swimming Pool many years ago by an irate tenant who didn't want their house sold.

6. *Do you believe that the building consulting industry needs improvement? If so in what way?*

Have you got a full page for comments?

Really, I think at present there is a fair representation of ASBC Members doing the mainstream work, however there are cowboys out there and they need to be removed from the system.

7. *What is your family situation ?*

One wife and one dog.

8. *What do you do for relaxation ?*

Import, sell, build and race Ford Mustangs.

9. *Do you have any hobbies or play any sport ?*

Not these days, but I might take up golf one day! (My father keeps nagging me!)

10. *Do you have a favourite restaurant ?*

Lynch's in South Yarra.

What's wrong with this picture?