

Newsletter

Australian and New Zealand Chapters of The Building Limes Forum

Comments and articles published in this Newsletter do not necessarily reflect the views of the membership or the editor.

The Building Limes Forum is a 'community of lime enthusiasts and practitioners, most of whom are producers, suppliers, specifiers or users of lime' which exists to encourage expertise and understanding in the appropriate use of building limes and education in the standards of production, preparation, application and after-care. The Building Limes Forum hosts a page for the Australian and New Zealand Chapters on the website www.buildinglimesforum.org.uk which includes copies of this Newsletter and information about our events. A separate New Zealand Chapter was formed in November 2019 - see page 2.

2021 Conference and Gathering Exeter - Looking Back, Looking Forward: Learning from the Past to Inform the Future 27-30 August 2021

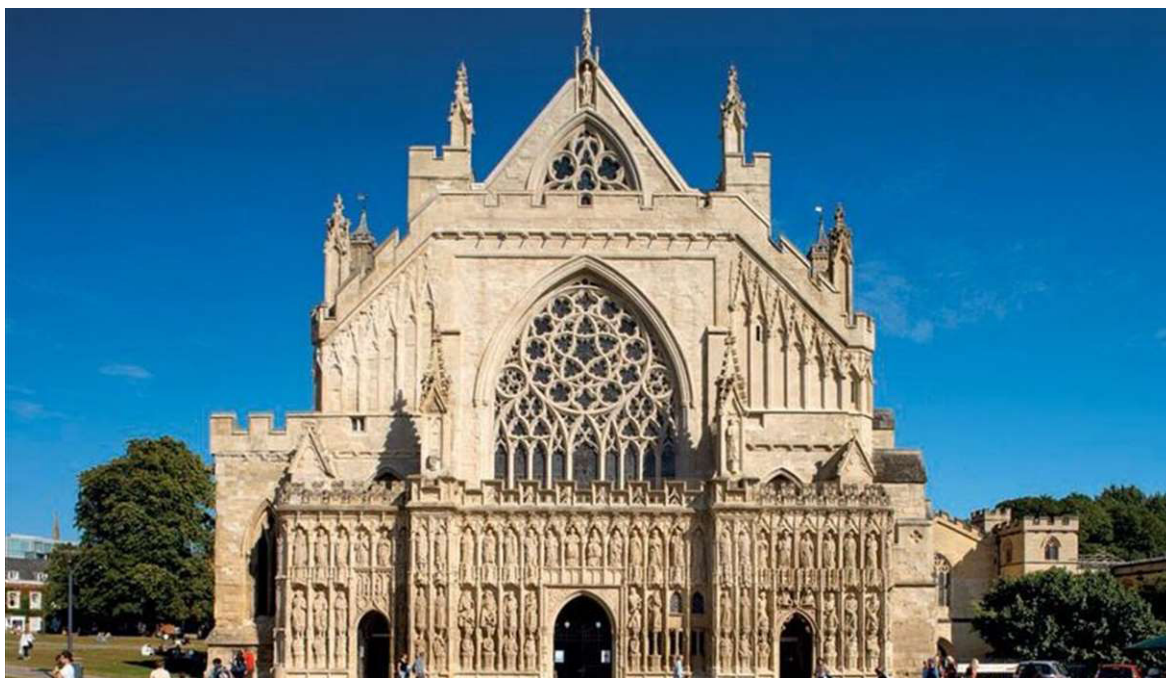
The 2020 BLF Conference and Gathering was to be held from 4-6 September in Exeter, Devon, UK. As a result of COVID19 the decision has been taken to postpone the conference to 2021. It will now be held from Friday 27 August to Sunday 30 August 2021.

Exeter has a walled medieval city centre, despite damage in WWII it still contains medieval, Tudor and later buildings. The Cathedral dates from 1050: the two towers are Norman and the magnificent west front (second only to Wells) was built between 1340 and 1470. The west front was worked on in the 1970s by Professor Robert and Eve Baker, after whom the annual Building Limes Forum Memorial lecture is named. The work on Exeter came after their work on Wells Cathedral and examples of stone conservation from every decade since can be seen. The interior contains a lot of intact Medieval fabric including the minstrel's gallery and Bishop's throne as well as some alterations in the Victorian period.

The Gathering will be based at the Streatham Campus of the University of Exeter, built in a country estate which is a Registered Botanic Garden. Plenary sessions will be held at Reed Hall of the University of Exeter, a splendid C19 grade II listed Italianate villa built for an India merchant.

The theme for the 2021 Conference and Gathering is Looking Back, Looking Forward: learning from the past to inform the future. There will be hands-on activities at Exeter Cathedral and visits are being planned to the Wellington monument restoration project, as well as the Salcombe and Beer limestone quarries, where much of the stone for Exeter Cathedral and other notable local buildings came from.

Bed and breakfast accommodation (all with ensuite) is available in Holland Hall, a modern hall of residence two minutes from Reed Hall.



Exeter Cathedral Photo Visitexeter.com

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PO Box 266 Cherrybrook NSW 2126 Australia

The Building Limes Forum - Riddles Court, 322 Lawnmarket, Edinburgh EH1 2PG Scottish Charitable Incorporated Organisation (SCIO) No. SC033659

Lime in New Zealand and A Separate New Zealand Chapter of the Building Limes Forum -

Robin Miller & Andrew Barsby



The inaugural meeting of the New Zealand Chapter of the Building Limes Forum - from left Ben Eyers, Stuart Griffiths, Marcus Wainwright, Andrew Barsby, Robin Miller, Tracey Hartley, Pamela Dziwulska and Andrea Farminer Photo courtesy of Robin Miller

The story of the use and manufacture of concrete in New Zealand has been briefly described in a number of books and publications, including Geoffrey Thornton's *Cast in Concrete – concrete construction in New Zealand 1850 – 1939* and *Historic concrete structures in New Zealand – overview, maintenance and management* by the Department of Conservation. These works have established that 'Portland stone cement' was imported as early as the 1840s and 'concrete' was used for agricultural buildings and in bridge piers in my region of the South Island, Otago, during the 1850s.

But what were meant by the terms 'cement' and concrete' for they have historically been used to describe a variety of materials. The modern-day use of 'cement' usually refers to Ordinary Portland Cement, but often in the 1840s and later, the term was used more widely to encompass any binder; for example, lime, hydraulic lime, Roman cement, various other proprietary cements and Portland stone cement - many of these were imported into Australia and New Zealand at that time (perhaps the Colonies were a new, easier market for the early cement producers than competition with the well-established lime market in Britain and elsewhere at the time). An example of the wide use of the term 'concrete' can be found in the *Otago Witness* in June 1862, which carried a report from the South Australian Register dated 4th June 1857 referring to "M. Coignet's concrete" used for house-building. Two mixes were given:

Economic concrete: Sand, gravel, and pebbles ... 7 parts;
Argillaceous earth ... 3 parts; Quick lime ... 1 part

And

Hard & solid concrete: Sand, gravel, and pebbles ... 8 parts;
Common earth, burnt & powdered ... 1 part; Cinders, powdered ... 1 part; unslaked hydraulic lime ... 1.5 parts

To these mixes an additional 1 part of 'cement' could be added to increase the hardness and solidity of the concrete. As lime is already referred to in the 'recipes', it would not seem

unreasonable to presume that 'cement' here refers to the Portland stone variety, but again we can't be certain.

Throughout the latter part of the 19th century, and into the 20th, newspaper reports and building specifications are full of these seemingly inter-changeable terms and there is, unfortunately, virtually no scientific information to determine what binders and mixes have been used in the past, what has been successful, and where it came from.

In 1879, W.N. Blair published a volume of papers that he had read at the Otago Institute concerning the building materials of Otago and South New Zealand. These include many papers/chapters on concrete, limes and aggregates and his observations were based upon his experiences of the various public works that had been under his charge. One of the things that Blair confirms that in the late 1870s, all the cement used in making concrete in the region was imported. He notes that cement "cannot be called native; but as the raw materials for making cement exist in large quantities, there is no doubt its manufacture will become a Colonial industry at no distant day." In fact, it was 1884 before New Zealand produced its own Portland stone cement.

This all points to a rich and, at times, experimental historical use of binders in NZ. There is so much to learn and so much to, potentially, inform how we should repair our historic buildings today and construct new sustainable buildings for the future. One of the main things to be remembered from the past is that, despite the name, early Portland stone cements were a very different product to the Portland cement of today. Use of 'cement' in the past does not equate to, or justify, use of modern Portland cement now.

The NZ Chapter of the Building Limes Forum was formally recognised by the BLF Executive earlier this month following a meeting of NZ lime enthusiasts in Dunedin on 30 November 2019. There were 8 attendees from all over the country and a further 6 interested members who unfortunately couldn't make it. From a brief discussion around the table, it was clear that the range of interests within the group were wide-ranging, including:

- Lime-burning technology, including historic sites such as the Otago Peninsular & Warkworth, near Auckland;
- Traditional building repairs (renders, plasters & mortars);
- Seismic strengthening of unreinforced masonry buildings (URMs);
- New build, including earth & straw bale buildings;
- Lime as a medium for art;
- Sustainability & the use of lime;
- Geology;
- Archaeology, recording & research.

The group included members with connections to the Earth Building Association of New Zealand, ICOMOS NZ, Dunedin City Council, Heritage New Zealand, and private companies (professional and contractors).

The key issues facing the group have been identified as:

- Lack of availability of lime and other associated products;
- Lack of availability of lime skills and knowledge. This includes the very real concern that there aren't too many failures - due to lack of understanding and poor site practices - for those new to using lime. This could potentially damage the reputation of lime products;
- The need for trials and testing;
- No current means of sharing information about where products and skills are available around the country; and
- Very few engineers know anything about lime and its benefits for use in seismic strengthening and repair projects.

The latter is very important to address for the conservation of NZ's built heritage. The need for strengthening typically relates to unreinforced masonry buildings, such as historic stone and brick structures, which are by law required to be strengthened under earthquake-prone buildings legislation in NZ.

It was agreed the following people would take on the various roles in developing the NZ Chapter:

- Joint chair/convenor – Robin Miller & Andrew Barsby
- Information gathering & research – Andrea Farminer
- Social media – Pam Dziwulska

The initial aims of the Chapter include making a presentation at the Engineering Heritage Australia conference in Dunedin later in the year and organising a get-together for members before the end of 2020 with a view to both providing training and promoting the growth of the Chapter.

The NZ Chapter looks forward to a long and engaging future with the Australian Chapter and would welcome any joint opportunities to promote and develop lime knowledge and technology on the far side of the world.

Quicklime Supply, Health & Safety and Commercial Implications and Regulatory Issues - call for a Sub-Committee

One of the major impediments to using hot-mixed lime appears to be the availability of a regular supply of quicklime.

Certainly in NSW regular suppliers are now cautious of supplying small quantities, in particular, following some accidents and the rulings of SafeWork NSW, the health and safety regulator that held suppliers liable for end user accidents.

Other issues affecting wider use of lime are regulatory. Although a number of people are happy to talk about this no-one would put up their hand to write an article about it. One member said quite simply that he has been beating this drum for too long and felt he couldn't do it again.

He noted that it's a big fight with entrenched forces and pointed to AS 3600 the concrete code which does not allow concrete to be from anything other than Portland cement, or its derivatives, and AS 3700 which precludes lime mortars for anything other than restoration. He commented that even then AS 3700 is 'completely and utterly wrong and misleading when it comes to formulation of any mortar containing lime'.

Who would be interested in talking this through? One of the advantages of COVID19 is that it has highlighted the advantages of on-line meetings. Given how spread out we all are this seems like a very sensible way for us all to get together!

If we had such a meeting and came away with a better idea of the pitfalls, we could tackle this in a more systematic way. It is all very well prompting the use of lime but if there are major impediments such as regulation and/ or supply then we are always preaching to the converted.

An issue that's been flagged a number of times in this *Newsletter* is about the differences in lime from various sources. We need to share more information and this *Newsletter* seems a sensible way of doing that. **Please send thoughts and suggestions!**

Climate Change and Traditional Buildings and Materials

At last year's Conference at Sterling dealing with the effects of climate change was front and centre in the discussions. In particular the effect of increased precipitation on the west coast of Scotland.

In Australia and New Zealand the effects of climate change are perhaps different. Australia has always been, in the oft-quoted words of Dorothea McKellar, 'A land of sweeping plains, Of ragged mountain ranges, Of droughts and flooding rains' but the droughts are more frequent, go on for longer and the floods likewise. In New Zealand there has been an increase in overnight minimum temperatures and rainfall.

Australian politicians don't like to acknowledge that this is happening but not only is our building stock suffering catastrophic events such as bushfire and storm events it is also suffering the slow cumulative effects of a changing climate. These include, coastal erosion, increased drying and ground movements.

The Australian Bureau of Meteorology (BOM) have a handy graphic showing rainfall since 1900. No doubt difficult to see here - but available from the BOM website - <http://www.bom.gov.au/climate/history/rainfall/>

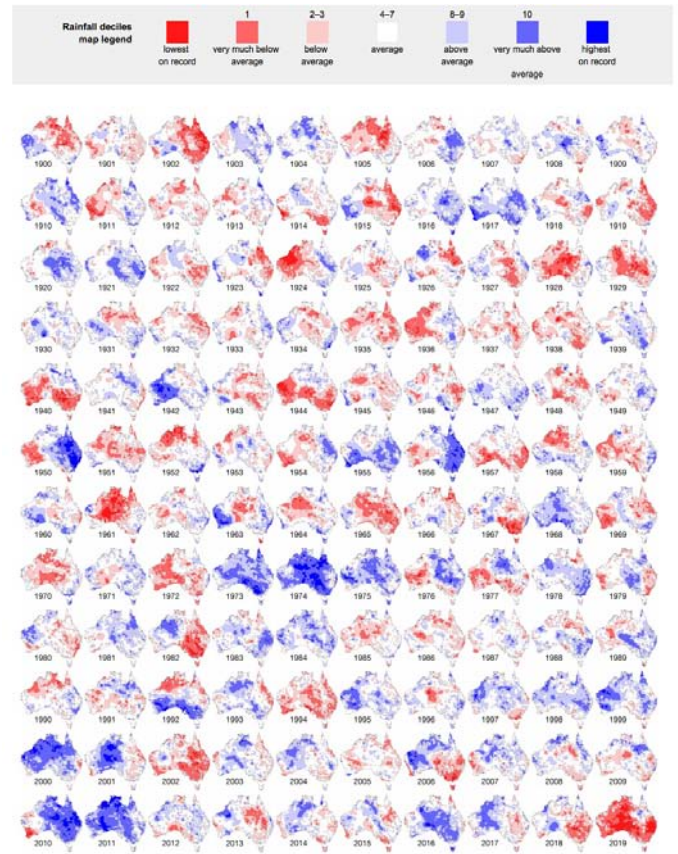
What this means for our traditional buildings, and therefore how they should be treated, needs careful examination and discussion.

A couple of publications that may be of interest are:

Historic Environment Scotland, *Climate Change Adaptation for Traditional Buildings*, Short Guide 11, 2016 .

UNESCO, *Climate Change and World Heritage: Report on predicting and managing the impacts on World Heritage Sites and Strategy to assist States Parties to implement appropriate management response*, 2007.

The Next issue of the *Newsletter of the Building Limes Forum* from the UK will carry an article about Global Warming and CO₂ emissions comparing cement and lime in mortars. Although a different angle to what is being discussed above this is another aspect of the response to global warming and traditional building that we need to be researching, discussing and debating.



120 Years of Australian Rainfall Image from the Australian Bureau of Meteorology

Trevor Proudfoot - In Memoriam

Many members of the Building Limes Forum will have known Trevor Proudfoot. Trevor died on 12 September 2019 from pancreatic cancer at the age of 65.

Trevor was a long term member of the Building Limes Forum. He was founder of the firm Cliveden Conservation which was initially formed to conserve statuary for the National Trust (National Trust for Places of Historic Interest and Natural Beauty in England, Wales and Northern Ireland) at the Cliveden Estate in Buckinghamshire.

He became well known for leading the rediscovery of skills and techniques for freehand modelling and restoration of plaster ceilings after the fire at Uppark in 1989.

The following was written by his son Lewis

'Trevor's death in September has left a huge hole in all our lives. We are a close-knit community here and his passing has affected us all; family, friends and colleagues alike. I know that many of

you reading this will have known Dad well, and apologies if I haven't been able to personally thank you for the many letters, card and emails that I have received.

A Goliath in the Conservation world, dad was a dominating presence at the heart of everything we did. It has been both overwhelming and humbling to hear how much he meant to so many people. How key he was to your careers, how inspirational for those starting out in conservation, and how many times he took on the jobs that others could not or would not do. His attention to detail, relentless determination and insistence on placing research and analysis at the heart of conservation have set the bar high for all of us and so it is our challenge to ensure it remains there. Trevor is sadly no longer with us; but the people that delivered the works that he lead for all those years are, and his standards and approaches are still key to our values and very much reflected in our work.'

His Obituary can be found in The Guardian 9 Nov 2019.



Trevor Proudfoot 10 July 1954- 12 September 2019 Source www.clivedenconservation.com

Burning Issues

Port Arthur Lime Kiln



A kiln was built at the Port Arthur gaol in 1854 following the closure of an 1834 dockyard on the site. It is thought that both shell and limestone were burnt there for 'mortar, plaster, as fertiliser and for the tanning process during the convict era' according to interpretation on the site.

Michael Pearson, author of 'The Lime Industry in Australia - an Overview' in *Australian Historical Archaeology*, 8, 1990: 28-35, which is a fabulous resource, supplied the following information about the lime that might have been burnt here:

'There are no limestone deposits on the Tasman Peninsula, the nearest, I think, is on Maria Island, and I can't recollect that having been utilised in the convict era. At the Tasman Peninsula Coal Mines stone limekilns were built, one of which survives, which certainly burnt shell. An 1840 labour return lists an overseer and four prisoners collecting shells and burning lime and charcoal (Bairstow, D. & Davies, M. 1987. *Coal Mines Historic Site Survey*, Department of Lands, Parks and Wildlife, Hobart: p.22)'



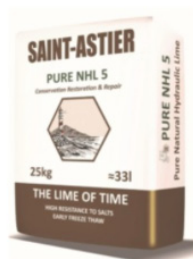
Westox Lime Products Available

A bit of advertising - here are some lime products available from Westox Building Products. Westgate Pty Ltd 16 Frost Road, Campbelltown, NSW, 2560, Australia.

Westox Managing Director, Barrie Cooper, has been very helpful in discussing the health and safety constraints of selling quicklime but in the immediate term these are the products on offer:

ST ASTIER HYDRAULIC LIME (AVAILABLE IN GRADE 2, 3.5 AND 5)

St Astier Hydraulic Lime is suitable for lath work, lime concreting, injection, grouting and rendering.



WESTOX SLAKED LIME (COARSE)

Westox Slaked Lime is used in mortars for bricklaying, plastering and rendering.



WESTOX PUTTY LIME (MEDIUM)

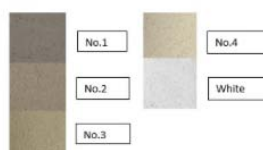
Westox Putty Lime is used in mortars for render finishing & plaster setting. All of our Lime mortars can be mixed by hand or by mechanical mixers.



PLASTALITE HYDRAULIC LIME STONE REPAIR MORTAR

Plastalite Hydraulic Lime Stone Repair Mortar is a one component based repair mortar. It is used for repairs to horizontal, vertical and overhead surfaces of stone, render and mouldings. Plastalite Hydraulic Lime Stone Repair Mortar is also compatible with sandstone & lime stone and able to be colour matched.

Ready made colours include the following: -



WESTOX RUN LIME (FINE)

Westox Run Lime is used for cornice work, lime washes, tuckpointing and plaster setting.



WESTOX LIME WATER (CLEAR)

Westox Lime Water is sprayed on surfaces to consolidate fragile or friable lime mortar or plaster set coats.



WESTOX LIME WASH

Westox Lime Wash is a 3-coat system used as a decorative finish on walls, that can be tinted to match any colour.



Committee of the Australian and New Zealand Chapter of the Building Limes Forum

Currently the Committee of the Australian and New Zealand Chapter is self appointed and anyone willing to put their hand up for a job will be most welcome!

- Nicola Ashurst, NSW
- Jacqui Goddard, NSW, Convenor and Editor
- Brian Maxwell, Queensland
- Maurie Potzreba, Queensland

If you are interested in taking part please don't hesitate to be in touch.

Contributions to the Newsletter and Journal

Please send contributions to the Australian and New Zealand Chapter Newsletter to Jacqui Goddard at jacquig@mac.com

Please send contributions to The Journal of the Building Limes Forum to Jacqui Goddard c/o admin@buildinglimesforum.org.uk

The intent of the Newsletter is to inform but also to encourage debate and discussion. There will no doubt be differences of opinion and while we seek to cover a wide range of topics and opinions we will not publish personal criticisms. Please note that as it says on page 1 *'Comments and articles published in this Newsletter do not necessarily reflect the views of the membership or the editor'* and comments and articles that appear are not a recommendation or endorsement.

The next Newsletter will be issued in July 2020 Please submit contributions by 30 May 2020.



'Quarrelling is Taboo' A message on the Boys Brigade building, Stirling Photo Rosemary Mann

Building Limes Forum Committee 2019-2020

- Roz Artis
- Phil Brathwaite
- Phi Brown
- Maria-Ellena Calderon
- Jacqui Goddard
- Alison Henry
- Stafford Holmes
- Ashley Pettit
- Ian Prince
- Lewis Proudfoot
- Philip Scorer
- James Simpson, Chair
- Steve Waite
- David Wiggins

Letters to the Editor

A number of people have suggested that a 'letters to the editor' section should be included in the Newsletter so if anyone wants to comment on articles in here or in the Journal please forward them and they will be included in the next issue.

Membership

Please encourage others to join!

Membership of the Building Limes Forum offers:

- the opportunity to participate in conferences, courses, workshops, demonstrations and visits organised by the Forum;
- an informal network of contacts who are prepared to share information and to discuss matters relating to building limes with other members. The list of members is on-line (password protected and encrypted for security) and details are available to members at a few clicks of a mouse;
- the annual Journal and regular newsletters;
- discounts on training courses at West Dean College and the Scottish Lime Centre;
- membership of the Australian and New Zealand Chapter;
- a means of supporting the stated aims.

There are four categories of membership:

Individual (£50, £45 if paying by standing order*). Members have access to the on-line list of members and receive the regular newsletter, the annual Journal of the Building Limes Forum and can attend the annual conference and other BLF events at preferential rates.

Corporate (£125, £115 if paying by standing order*). Corporate members have access to the on-line list of members and receive the regular newsletter, two copies of the annual Journal of the Building Limes Forum, additional copies of the Journal at a discount, and can send people working for the organisation to the annual conference and other BLF events at preferential rates. For organisations with more than one office, additional addresses can be added for £30 each. Each additional address has access to the on-line list of members and receive the regular newsletter, the annual Journal of the Building Limes Forum and can send people working for the organisation to the annual conference and other BLF events at preferential rates.

Concession (£25, £20 if paying by standing order*). Anybody in full-time education, scholarship, internship or apprenticeship, anybody aged 25 or under and anyone unwaged is eligible for concession membership. Concession members receive the same benefits as Individual members.

Institutional (£50, £45 if paying by standing order*). Institutional members, who are usually libraries of universities or similar, receive the annual Journal of the Building Limes Forum.

**Note that you may only pay by standing order if you have an account with a UK bank.*

The membership form may be downloaded by clicking on the link in the right-hand column under 'Useful Documents'.

Pay on-line!

You may join the Building Limes Forum or pay your annual subscription on-line using the secure site workwithus.org which will accept payments to the BLF by PayPal, credit or debit card

Join Today - www.buildinglimesforum.org.uk or www.buildinglimesforumireland.com and follow the links.