

Newsletter

Australian and New Zealand Chapter 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 Chapter on the website www.buildinglimesforum.org.uk which includes copies of this Newsletter and information about our events.

A long time between issues!

Sorry for the delay everyone. My excuse? Well there isn't one really other than the old one of I have been busy with my research. Contributors sent information so I have no one to blame but myself. Thanks to Rosemary Mann from the BLF in Edinburgh for the report and photos on the Liverpool Gathering below.

2016 Gathering in Liverpool: Lime and Aggregates

The 2016 Conference and Gathering of the Building Limes Forum was held in Liverpool from Friday 2 to Sunday 4 September. The venue was the Liverpool Medical Institution, an unusual and interesting venue with an intimate lecture theatre. One benefit from using a building with medical connections was a talk by an ophthalmologist on the correct treatment for lime in the eye (see the last 2016 BLF newsletter for more details). The theme for the conference was Lime and Aggregates and there was an emphasis on hands-on demonstrations. The Baker Memorial Lecture was delivered on the Friday evening by Cliff Blundell and was a review of his involvement with public authorities and the press about the benefits of lime. The lectures and demonstrations were leavened by visits to some of Liverpool's fine buildings, many with splendid interiors deriving from the city's mercantile past.



Bill Sargent demonstrating pargeing Photo Rosemary Mann



Philip Gaches and Martin Brown Photo Rosemary Mann



Andrew Fawcett demonstrating fresco Photo Rosemary Mann



Delegates at the Liver Building Photo Rosemary Mann

The Newsletter of the Australian and New Zealand Chapter of The Building Limes Forum. Edited by Jacqui Goddard.
Volume 3 Issue No.1 February 2017.

PO Box 266 Cherrybrook NSW 2126 Australia

The Building Limes Forum - The Glasite Meeting House, 33 Barony Street, Edinburgh EH3 6NX Scottish Charity No. SC033659

Shell Lime at Lennox Bridge, Mitchells Pass, Glenbrook, NSW - Nicola Ashurst

The Lennox Bridge at Mitchell's Pass, Glenbrook in the Blue Mountains west of Sydney is an exceptional example of early stonework. Completed in 1833 to the design of Scottish stonemason David Lennox the bridge formed part of the new road over the Blue Mountains. It has State Significance as the oldest bridge permitting vehicle transport on a route essential to the state's development.



The arch is 6 meters (20 ft.) in span and 9 meters (30 ft.) above water. It is also known as the Horseshoe Bridge as it is curved on plan. Stone for the bridge is thought to have been won from a local quarry. Lennox supervised its construction using 20 predominantly unskilled convicts.

Alterations to the bridge have been minimal and it continues to sit in its bushland setting. Substantial structural works undertaken in the 1982 were discrete and did not affect the stonework below road level. Since then the bridge has been the subject of specialist conservation monitoring.



The Lennox Bridge is privileged to retain many areas of original, soft, porous pointing and bedding mortars. Except for the new mortars installed in 1982 as part of the strengthening works undertaken, there is no evidence of any other phases of repointing. This gives the bridge masonry additional heritage value because of the intactness of this part of its original fabric.

But the stonework joints are now weathered. They lack pointing mortar to substantial depths and the mortar of the rubble core has also weathered.

There are many areas of masonry with original mortar. From inspecting the wall, the original mortar was soft and highly porous. It appeared to be based on clay-rich sand and contains oyster shell particles / pieces in a wide range of sizes. It is believed the lime used in the mortar was produced from burning and then slaking oyster shells and the sand aggregate was an unwashed river loam.



Evidence of original lime-based mortar



Range of joint mortar conditions to low-level stonework

Determining the Original Mortar

Samples were taken from 3 locations. In the following description Sample 3 is the focus.



Sample 3 West Face, East Flank Pointing Mortar

Visual inspection of the sampled mortars revealed very silty/clayey sand with large particles and pieces of oyster shell and charcoal. Many pieces of oyster shell were soft or partially soft suggesting burning and slaking to produce lime putty for the mortar. Considering the location of the bridge (isolated, bush, local materials) and its age (1833), the preparation and use of a hot lime mortar would have been the logical way to produce a mortar in that context.



Sample 3 as removed from the wall

The mortar samples were then subdivided, so the finer particles could be analysed without the confusion of the dissolution of the oyster shell pieces.

Mortar Analysis

The finer portion of each mortar was weighed and subject to dilute acid dissolution, to extract the lime portion. The remaining aggregate was dried and weighed and the basic proportion of the mix calculated.



Sample 3 with large pieces of aggregate and finer particles separated.



Sample 3 on completion of acid dissolution of the binder. Pieces of charcoal are noticeable and details of finer aggregates are evident at this stage.

The pointing and core mortars were found to be similar, approximately 1: 2.5-3.0 parts by volume, shell lime: unwashed river sand plus pieces of charcoal and unburnt shell.

Is it possible to re-create this mortar? Yes, of course. The collection and burning of oyster shells is not difficult for a good number of specialist contractors; selection of an unwashed river sand to match the original is easy. The process of preparing a hot lime mix, combining, and then slaking the burnt shell lime together is a well-documented process. Time, perhaps the most costly ingredient, is needed: to source the materials; burn the shells; slake the lime; and fine tune the mortar so it matches the original. A range of suitable lime-based solutions were developed as well as the burnt oyster shell option; including natural hydraulic lime, hot lime mortar and lime putty & aggregate options blended with appropriate unwashed river sands to match the original mortar as closely as possible, supplemented with retention and display of as much of the original oyster shell mortar as possible and providing detailed interpretation the original mortar on site.

Let's Find Out More About Our Members

The membership of the Australian and New Zealand Chapter of the Building Limes Forum is growing but we are spread across two countries and although some of us know each other I don't think any of us knows everyone. There is no doubt common ground so here is an opportunity to find out who are members are and what drives them.

This profile is from Scott McMillan, Heritage Plastering Brisbane which contains a call to anyone interested in learning the trade of traditional plasterwork.

A New Generation for Traditional Trades

Since 2012 I have been on a mission to revive traditional lime and ornamental plastering techniques in Brisbane.

From age 17 I was thrust into the world of traditional lime plastering the 'old-fashioned' way through an intense 4-year apprenticeship with one of Scotland's most reputable ornamental plastering companies. I also had the opportunity to take on an advanced craft certificate where my interest in traditional plastering further flourished.

My apprenticeship taught me the value of a strong work ethic, and how to master the intricacies of careful workmanship that I encountered with horse haired lime plastering, in-situ lime putty ran cornice work, and ornamental and fibrous plastering.

There were times when I was downtrodden and at my wits end with trying to please an old taskmaster, but in retrospect I see that this apprenticeship completely steered me on the course of becoming a master craftsman in such a niche field.

Today, as an Australian resident, I see little avenues for tradespeople to receive the kind of learning opportunities that I was fortunate enough to have with delving into a traditional trade. Or perhaps the general public are unaware that traditional trades still exist in today's fast-paced technically advanced world? Either way, with such incredible built heritage in this nation, I do feel that a stronger emphasis should be placed on training up a new generation of traditional tradespeople.

As the director of a heritage plastering company in Brisbane, I have experienced the frustration of offering traditional trade apprenticeship opportunities to young school-leavers, fellow tradesmen, and private and public training organisations only to receive very little or no interest whatsoever.

In December 2015, the Australian Heritage Strategy outlined the importance of encouraging the development of professional conservation trades. I can only hope that this strategy will be further reviewed and implemented by technical and further education colleges when designing future training programs and encouraging more people to explore careers in traditional trades.

I would be delighted to see more Aussies moving up the ranks as traditional tradespeople. On that note, if you or someone you know is interested in learning the traditional trade of heritage plasterwork then please don't hesitate to get in touch with me. I would be honoured to share my knowledge and experience.

Scott McMillan of McMillan Heritage Plastering



Running in-situ a lime putty cornice at Glen Lyon House, Brisbane
Photo Scott McMillan



Applying scratch coat of horsehair lime mortar to cleaned and re-fixed existing laths at Old Bishopsbourne, Brisbane
Photo Scott McMillan

Call for more stories about our members

If you have anything you would like to share please send it along. Something you are working on, or found, read about or saw may well be of interest to others and we would all like to hear about the people who belong to this group!

International Events

Most of you will have received the latest Building Limes Forum Newsletter (if you have paid your dues! note to those who haven't or who haven't joined - and you know who you are) you will have seen a few things mentioned.

BLF Slam Day at Tarmac, Buxton on 2 March 2017

Hot-Mixed Mortars Day at Weald and Downland Living Museum, West Sussex on 14 March 2017

2017 Gathering Trondheim

The next Gathering will be held in Trondheim, Norway from 7-10 September 2017.

A good reason to have your membership up to date is that the fee for attendance is being held at £300 for members. Still not a cheap exercise but the Gathering is being held at Nidaros Cathedral, the world's most northern Medieval Cathedral. Currently there are 60 people, including 14 masons, 3 blacksmiths, 2 carpenters, 2 leaded glassworkers and 3 plasterers employed on site as part of the restoration and rebuilding process. See <http://www.nidarosdomen.no/en/ndr-restoration/om-ndr>

They only use hand tools and burn their own lime.

Note that there is bursary available for some members and if you think you qualify for assistance please contact the BLF directly.



Bjornaa Quarry Nidaros Cathedral Photo Per Storemyr <https://per-storemyr.net/2016/01/04/happy-new-year-with-a-cavalcade-of-images-from-2015/bjornaa-quarry-nidaros-cathedral/>



Photo <https://www.flickr.com/photos/grebstad/10387846273>

Local Events

Materials workshops at Sydney University

As mentioned in the last Newsletter The Masters of Heritage Conservation course in the School of Architecture, Design & Planning at the University of Sydney held a series of materials workshops in March 2016, one of which was on the use of lime.

The workshop was held on 11 March 2016 at the National Trust Centre on Observatory Hill and was presented by Jacqui Goddard and Nicola Ashurst. The day was well attended and consisted of a combination of talks and practical sessions.

The Australian and New Zealand Chapter of the Building Limes Forum would like to thank the National Trust of Australia (NSW) for their continued support and enthusiasm for all things lime. We could not do these workshops without it.



Photos Jacqui Goddard

Skills Seminars in Western Australia

The firm TPG, Town Planning, Urban Design and Heritage in Perth, has been running a series of traditional skills seminars over the past couple of years which have proven very popular. It is expected these will be expanded by assisting the ICOMOS WA and/or National Trust and State heritage office set up a short course that will focus on the traditional skills and materials associated with conserving historic masonry... watch this space.

Burning Interest Group - Australia

Focus on Historic Kilns

The first edition of this *Newsletter* included a list of kilns recognised on Heritage Registers across Australia and of course this by means represents the full extent of kilns to be found here. We are hoping that members will forward photographs of, and any known information about, any they might find on their travels to the editor.

Kingsdale Lime Kilns

In Michael Pearson's article on 'Lime Burning in Australia - An Overview' in *Australian Historical Archaeology*, Volume 8, 1990 (which can be found at http://www.ashadocs.org/aha/08/08_04_Pearson.pdf) Kingsdale is credited with being one of two places in NSW that supplied 90% of the total lime production in 1925. The other was Portland near Lithgow.

Kingsdale is 5km north of Golburn on Crookwell Road. It was originally part of the Hannibal Hawkins Macarthur property, Norwood Estate before subdivision in the late 1880s. An excerpt from the 1909 sale notice for the lime burning operation at Kingsdale reads: 'The improvements comprise a substantial two storeyed stone house of 17 rooms, verandah back and front, and replete with every convenience, all necessary outbuildings, four-stall stable, with loft. Sheds, etc; sheep yards etc. There are also a number of cottages on the property which are let to workmen at the Kingsdale Lime-works, as well as several Lime Kilns which are also rent returning.'

Pearson reports that there were 5 'D' kilns at Kingsdale now in 'varying degrees of decay' with burning chambers 'typically 5 to 6 metres wide, 3.4 to 4 metres front to back and 2.5 to 3.5 metres deep, with three ash boxes and draw holes, and built into mounds and ridges of overburden removed from the four adjacent limestone quarries.'

Kingsdale provided limestone that averaged 97% calcium carbonate. Quarrying of the ore was costly however, due to the presence of 'overburden' with 'pockets and bands of clayey material'. Its location across private property some 2 miles west of the nearest railway station, Norwood, on the Goulburn-Crookwell line also made transportation less than ideal. Companies that were producing lime at Kingsdale included four Gray brothers and the Goulburn Lime Company.

The Kingsdale Lime Kilns and adjacent quarries are listed on the NSW State Heritage Inventory on the Goulburn Mulwaree Local Environment Plan (item 307) as 'a site of recognised archaeological and heritage significance'.



A D Kiln at Kingsdale Photo Michael Pearson 'Lime Burning in Australia' page 31

The Kiln at Garra, NSW - GOOD NEWS

The good news is that funding for our kiln at Garra has been secured from Sloss & Goddard.

The shed has been constructed and kiln building should happen soon.

If you would like to participate please contact Mark Goodchild (mwgood_child@hotmail.com) or Jacqui Goddard (jacquig@mac.com).

When we have a firm program we will let you know.



The Gara Shed Photos Mark Goodchild

Lime Burning on TV

Missed it the first time around but in Series 1 of 'Restoration Australia' (Episode 7) at Holowiliena Sheep Station in SA a kiln found on the property was fired. Take a look if you can.



Kiln at Holowiliena SA ready for firing Photo <http://www.abc.net.au/tv/programs/restoration-australia/>

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

Marc Beattie, Western Australia

Jacqui Goddard, NSW, Convenor and Editor

Mark Goodchild, NSW, Training and Events

Bill Jordan, NSW

Caroline Lawrance, NSW

Brian Maxwell, Queensland

Maurie Potrzeba, Queensland

Gary Waller, NSW

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 Alison Henry 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 2017. Please submit contributions by 30 June 2017.

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.

Areas of Research

As has been highlighted in previous issues of this Newsletter and in various articles and discussions research is needed in determining our past and current sources of lime and what were our traditional mixes for plasters, renders and mortars and what the regional variations were (and are) across Australia and New Zealand.

Please forward any information you might have and encourage these investigations!

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 (£40, £35 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 (£100, £90 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 (£20, £15 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 (£40, £35 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 credit or debit card (sorry, not American Express or Diners).

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