

IPENZ ENGINEERING HERITAGE NEWSLETTER

OCTOBER 2008

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1. NORTH ISLAND MAIN TRUNK CENTENARY 1908 - 2008

Several IPENZ members were able to take advantage of the celebrations marking the centenary of the North Island Main Trunk line. One of the highlights was the unveiling of the plaque at Taihape acknowledging the engineering event of the Makohine Viaduct. This event was co-sponsored by IPENZ and Opus.

The plaque unveiled at Taihape 6 August, 2008, by Jeff Jones for later placement under Makohine Viaduct.



Rob Aspden
DistFIPENZ, Jeff
Jones FIPENZ and
Rob Wilkinson
DistFIPENZ at the
Makohine Viaduct
Plaque unveiling at
Taihape, 6 August,
2008.

Rob Merrifield represented IPENZ on the Parliamentary Special a train journey to commemorate the opening of the main trunk railway.

1.1 UNVEILING OF PLAQUE FOR MAKOHINE VIADUCT

A plaque commemorating the engineering feat of designing and building Makohine Viaduct was unveiled by Past President Jeff Jones at a function geared to the programme of a special commemorative train on the evening of 6 August.

Rob Wilkinson, Chairman of the IPENZ Engineering Heritage Board, assisted him with the unveiling in Taihape Town Hall. Helping were Rob Aspden and Rob Merrifield from the Wellington Chapter of our Heritage Board. The plaque will be stored by IPENZ until a major deviation of State highway 1 in the Ohingaiti-Makohine area is completed in 2011. It will then be permanently mounted in a roadside rest area.

Makohine Viaduct, the first of the big steel viaducts, was built 1896-1902. It differs in structural form from those designed later because of the peculiarities of its site. The central span cantilevers out beyond the two towers, to support trusses that span the balance of the distance to the abutments. This avoided a need to build foundations in the walls of the valley, where stability of the ground was very suspect.

Earlier in the day a steam-hauled Parliamentary Special train organised by Ontrack and carrying the official party had crossed Makohine Viaduct on its way to Auckland. This train was being run to mark the centenary of the first through train from Wellington to Auckland, 7-8 August, 1908. The official completion and opening of the line for traffic came some six months later, in February 1909.

On the special train were Marnie Stockwell, grand-daughter of P S Hay, the designer of the viaducts, and Simon Wright, her grandson. Also on the train were Rod. And Ursula Furkert, whose father, F W Furkert was Resident Engineer, Ohakune, in the final stages of completion of the line.

The story of how getting that first train through came to be the object of a bet of £1,000 (more than Resident Engineer Furkert's annual salary) between him and his Minister, William Hall-Jones, is reasonably well known. Parliament wanted to be in Auckland to greet an American naval fleet that was touring the world, so could they ride the nearing-completion railway as far as possible and use horse-drawn coaches to bridge between railheads? There weren't sufficient coaches in the area to take the passengers in one convoy, so what were the alternatives? After some debate of options, Mr Furkert suggested he could take the official party all the way by rail using temporary tracks, especially in the critical area north of Ohakune. He succeeded in getting a usable line through in time, winning the bet laid down by his Minister.

Other significant events in the completion of the railway will be held during the coming six months. Our engineering Heritage Board plans the unveiling of a further three commemorative plaques at selected functions, marking the achievements of the Wellington & Manawatu Railway Company (still our most successful private railway), Makatote Viaduct, and the Raurimu Spiral.

Rob Merrifield 18 August, 2008

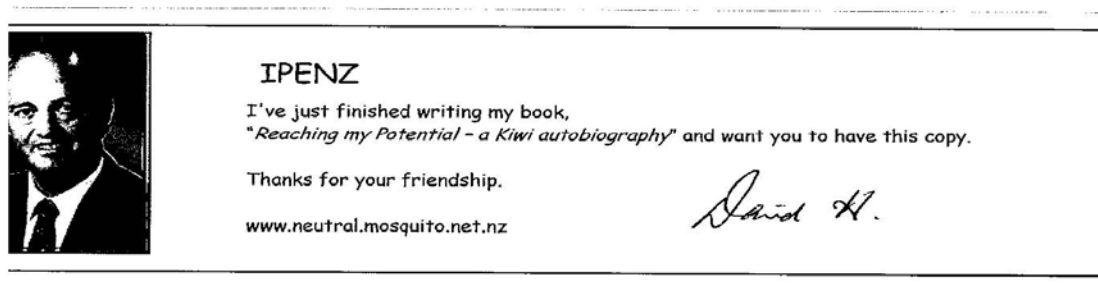


Jeff Jones DistFIPENZ giving his address prior to the unveiling of the plaque in Taihape Town Hall, 6 August, 2008

2. BOOK REVIEWS

2.1 “REACHING MY POTENTIAL – A KIWI AUTOBIOGRAPHY” BY DAVID HOLLANDS

Reviewed by Rob Aspden



Biographic notes

For some time now the Institution has asked retired members for biographic notes giving brief details about their careers, family and interests. This has met with mixed success and there are now around 400 of our members who have submitted notes, which are now held by the Institution (either at the National office or in the Alexander Turnbull Library).

Recently a fine example of what can be done has been received by IPENZ. **David Hollands** (1938 – 2008), shortly before his untimely death earlier this year, sent the Institution a copy of his book, “**Reaching my potential – a Kiwi autobiography**”. In February this year he was spurred by the discovery that he had pancreatic cancer to record, as he notes, “aspects of my life, mainly for my grandchildren...” In an amazingly short time he produced an excellent little volume of just over 100 pages. It has been nicely published with plenty of illustrations, and covers all the areas that are requested in brief in the IPENZ Biographic Information form. In eleven reasonably succinct chapters David covers his consulting work areas (survey, geotechnical, dispute resolution, facilitation and training), his involvement and love of Japan, his spiritual journey (I admired him for being willing to set this down). He continued with his and his wife, Carole’s, family history, and finally provides a personal retrospective on the changing times that he experienced in his lifetime (including of course those horrid sun warmed bottles of milk at school that the government decreed were so essential to the health of the nation!).

It is an easy and delightful read, and will I am sure be (as friend Graham Wear says) “a taonga for family and descendants”. However it provides a good deal on insight into the fields of arbitration and mediation that would be of value to others involved in this work. Above all I hope that it will show other engineers what can be done to record their careers and their lives. At least I hope that it will encourage retired IPENZ members who have not completed the Biographic information form to do so.

For anyone interested in the book, its ISBN number is 978-0-473-13865-3.

It is available from David’s son, Blair, PO Box 439, Kumeu, Auckland 0841 (email blair@mosquito.net.nz) and costs \$45 (present edition).

2.2 "CAPTAIN CHARLES - ENGINEER OF CHARITY" BY STEVEN UTICK

Reviewed by Rob Wilkinson

Rob Wilkinson attended the NZ book launch and writes:

O'Neill was clearly a far sighted engineer. He played a significant role in the development of Wellington as Provincial Engineer. He advocated steam tramways in 1873 because of the build up of horse manure. He proposed building the Rimutaka tunnel in 1871 but lost out to the Incline proposal.

In 1878 he pressed for town planning legislation. But his greatest legacy was his work for the St Vincent de Paul Society.

From Back Cover of the book.

"The extraordinary saga of the colonial character "Captain" Charles Gordon O'Neill is told for the first time. An engineer, inventor, parliamentarian and philanthropist, Charles was a principal co-founder of the St Vincent de Paul Society in Australia and New Zealand.

Born of Irish parents in Scotland in 1828, O'Neill travelled to the colonies in 1863 with driving ambition, matched by entrepreneurial vision. A brilliant engineer, he helped create town plans, railway routes and tramways across New Zealand. Elected to the New Zealand Parliament as a goldfields MP he warned of the risk of climate change from destroying forests. He moved to Sydney in 1881 to work for the poor of Australia. Beginning in Sydney's wild Rocks district, he pioneered many charitable initiatives and established the St Vincent de Paul Society in New South Wales. His foresight was vindicated as the colonial age of gold was followed by the economic depression of the 1890s. In a bitter twist of fate, despite all his technical skill, access to capital and political connections, O'Neill died a pauper amid the slums of The Rocks in 1900."

"a fascinating, meticulously researched and detailed study of the life of Charles O'Neill ... The themes of personal sacrifice in the cause of social justice and the fight against poverty are universal & still contemporary."

Prof John Warhurst of ANU

"Utick rescues a singularly intriguing character from undeserved obscurity, and in so doing makes an important and fresh contribution to the written histories of New Zealand and Australia."

Assoc Prof Hugh Lacey of U of Auckland.

Captain Charles is published by Allen & Unwin

ISBN 978 1 74175 378 3

3. FUTURE ENGINEERING HERITAGE CONFERENCE TO BE HELD IN DUNEDIN IN 2009

3rd Australasian Engineering Heritage Conference

Engineering in the Development of a Region – Heritage and History

SALMOND COLLEGE, UNIVERSITY OF OTAGO, DUNEDIN, NEW ZEALAND 22–25 NOVEMBER 2009

This conference is part of a cycle of Australia & New Zealand engineering heritage conferences. There is a conference every other year, but most of these are held in one of the Australian cities. The 1st Australasian conference was in Christchurch 1994 and the 2nd in Auckland 2000. Previous Australian conferences include Sydney 2005 and Perth 2007. A preview of the next conference was presented at the Perth conference and liaison has continued between New Zealand (IPENZ) and Australia (EHA) Engineering Heritage groups.

The 3rd Australasian Engineering Heritage Conference is being planned for November 2009, in Dunedin, New Zealand. The Conference organisers are now inviting preliminary expressions of interest to participate, as registrants, as keynote speakers, as authors of papers or poster presentations, or to be on the pre-conference tour. Further information including the conference programme, pre-conference tour itinerary, call for papers and registration details will be provided from later this year.

An aim of this conference is to tell more about engineers, engineering achievements and their impacts on communities and people's lives. The themes and topics below are an indication of the proposed programme and the basis of a call for papers and invitations to keynote speakers.

Conference Themes and Topics include:

- **Agricultural Development** (irrigation & drainage; flood protection; refrigeration engineering; process industries; machinery; sawmilling; buildings)
- **Power** (hydro-electric; wind; steam; diesel; gas)
- **Transport and Communications** (roading; bridges; railways; shipping and shipbuilding; harbours and ports)
- **Resource Extraction** (Gold - mining; sluicing; dredging; tunneling; smelting. Coal. Scheelite. Oil shale)
- **The People** (entrepreneurs; communities; businesses; manufacturers; engineers; innovators)

These will be reviewed as we proceed.

Conference dates: Sunday 22nd November 2009 through Wednesday 25th November 2009.

Social gathering and welcome on Sunday evening.

3 days of sessions, including a Tuesday afternoon breakout for a local tour and a public lecture at a suitable engineering heritage venue.

4 day pre-conference tour Thursday – Sunday.

Co-hosted by Institution of Professional Engineers New Zealand (IPENZ) and History Department University of Otago

Further information will be available as conference planning proceeds.

Refer to IPENZ Engineering Heritage website: www.ipenz.org.nz/heritage or

Contact: Lloyd Smith, Chairman IPENZ Engineering Heritage Otago Chapter

64 Ann Street, Roslyn, Dunedin 9010, New Zealand

Email: EHConference09@ipenz.org.nz



September 2008

4. NEWS FROM HERITAGE CHAPTERS

4.1 AUCKLAND CHAPTER

The Auckland Chapter of IPENZ Engineering Heritage has been involved in a number of activities over recent months.

As part of the Auckland City Heritage Festival 08, committee members are again guiding the popular Heritage walks around Auckland City. Our booklet "Heritage Walks – The Engineering Heritage of Auckland" describing 37 sites and the associated website www.heritagewalks.co.nz have been very popular. Although the descriptions of each site are brief, there is sufficient information to generate much interest in the historical importance of engineering structures and facilities close to the city centre. Copies of the booklet are free of charge and available at Auckland City libraries and handed out to those taking part in the walks.

As a result of the success of the walks booklet, members are busy writing a book describing Heritage Engineering in the Auckland Chapter's region north of New Plymouth. It is hoped that other New Zealand chapters will follow Auckland's lead to produce similar volumes describing sites throughout the country. It is proposed the book will become a project celebrating the centenary of IPENZ in 2014, although the intention is that Auckland's book will be available for sale well before the celebration.

Estimating the cost of the book has been based on about 200 pages, with about 25% in colour. Preliminary chapter headings are; People and Engineering, Water Supply, Auckland Wastewater, Transport, Military, Harbour Development, Industrial Development, Buildings and Power Supply. There is real enthusiasm and excitement among members who are busy researching information and writing their contributions. Once their text has been prepared, it is peer reviewed before being passed to an experienced editor. There is emphasis on describing the people and political background as well as the engineering. Deciding what to include and what to leave out is a real challenge. Many of the committee have firsthand experience of the projects they are writing about; so capturing their knowledge should provide a fascinating volume describing the historical background of the engineering and the engineers who have provided so much for our present way of life.

4.2 WELLINGTON CHAPTER

The chapter has recently moved from the dual role of being both Wellington Chapter and National Committee and so a good deal of recent time has involved separating out the two responsibilities and handing the national issues over to the newly established Engineering Heritage Board. It is pleasing to note that from our perspective this seems to be going very well with much improved communications between the four chapters.

Apart from this, for the chapter, the main activity has been the celebration of the NIMT centenary. Much of the work has been carried by Rob Merrifield ably assisted by Mike Mellor. This has involved preparing submissions for the registration of four items in the NIMT. These are the Makohine and Makatote viaducts, The Raurimu Spiral and the Wellington and Manawatu Railway (WMR).

The events involved in the unveiling of the first plaque (Makohine viaduct) are described elsewhere in this newsletter, but it was a most successful occasion, and the main organiser of the IPENZ involvement, Rob Merrifield, dressed well for the occasion as seen here.

Although unveiled the actual installation of the plaque in its final location depends on the construction of the new section of SH 1 just south of Ohingaiti opposite the viaduct.

Now plans are proceeding for the unveiling of the other three plaques. Currently it is planned for the WMR one to be unveiled in December, probably at Paekakariki, and the other two at Taumaranui in February when the centenary of the first paying passenger train is celebrated. Incidentally, Rob Merrifield has submitted a paper on the NIMT entitled “An engineering adventure 1870 – 1908” for publication in the newly established heritage journal that ICE are producing.



Meanwhile, Bill Pitt has been doing sterling work on the “Hikitia”. This is (as far as we can determine) the last remaining steam powered floating crane still operating in the world. Bill has produced a submission for the registration of the crane and this is being considered. Incidentally the Hikitia is about to make a journey to Lyttelton for major maintenance on the hull. IPENZ has helped provide a small amount of money for the preparation of a maintenance plan.

Finally, we are actively investigating an engineering heritage walks book for Wellington similar to the splendid one that the Auckland chapter have produced. We hope that we can report good progress on this in the next newsletter.

4.3 CANTERBURY CHAPTER

The Canterbury Chapter needs your help. The committee has been depleted over the past few years and new members are required. Please contact the Heritage Administrator heritage@ipenz.org.nz if you would have an interest in being involved and would like more information.

4.4 OTAGO/SOUTHLAND CHAPTER

The Chapter is continuing to research southern sites of significant engineering achievements. This includes information and photographs of early Dunedin City sites, which will assist with recording them and telling their stories through guided walks and brochures.

The Chapter has been enquiring about preservation of records from businesses that have closed, amalgamated or been taken over. Some owners are aware of responsibilities, others are being encouraged to hand documents, plans, photographs and other material over to suitable archive repositories - for example, Hocken Library or Archives NZ.

Some local companies include Hillside Railway Workshops (their earlier history as part of NZ Government Railways); Burnside Freezing Works; Fisher & Paykel Taieri plant and the former Shacklocks of Dunedin.

Some interesting research has been done on Kincaid & McQueen a 19th century engineering firm in Dunedin and builder of large steam powered cranes, including a 40 ton slewing travelling crane for Oamaru Harbour. It was one of three similar cranes (the others went to Taranaki and Timaru) and was used for construction of the breakwater, for lifting and placing large concrete blocks. They also built gold dredges and other heavy machinery, as well as the Cumberland Street over bridge (c1886) which was believed to have used the first steel commercially produced in New Zealand.

Planning for the 2009 Engineering Heritage Conference in Dunedin is continuing, by a Chapter sub-group and with liaison with conference Co-hosts University of Otago History Department. Preliminary information is available on the IPENZ web site.

5. ENGINEERING HERITAGE BOARD

The EHB has met three times since its establishment and has focussed on thinking strategically about Engineering Heritage.

As a complete newcomer to the subject of heritage it has been rapid learning curve.

We have developed and approved an "EHB Strategic Plan 2008 - 2012" which sets four goals:

1. To enhance the standing of the engineering profession in society and position it as the leading profession in the delivery of a sustainable economy and environment.
2. Identify and publicise New Zealand's engineering heritage.
3. Record the biographic details of retired and eminent engineers.
4. Support and co-operate with individuals, organisations and institutions documenting, maintaining, educating and disseminating engineering heritage.

These led to specific Key Performance Indicators for the next year:

- Recognition and recording of the contribution of historical and ongoing development of New Zealand:
- Six major recognition projects (eg plaques, oral histories, booklets) completed
- 50 new database entries

- A strategy is developed to maximise the contribution of heritage to the public profiling.

Engineering Heritage is effective in education, introducing young people to ideas and technologies that underpin our everyday lives. EHB wants to ensure the widest possible scope of engineering achievement is accessible and interpreted. At present there are notable gaps in our heritage coverage and some of them will require energy and imagination to be filled. For example: How and where is food technology, a foundation of New Zealand's economy, represented as an Engineering Heritage achievement.

Having attended too many funerals lately, I am acutely aware of the need to capture the stories of our older engineers who are our "living treasures". I also realise that most of us who are involved with engineering heritage are older and that the future of engineering heritage as an activity requires the involvement of younger people. Suggestions, ideas and offers to help are welcome.

Rob Wilkinson

6. NEWSLETTERS RECEIVED AT IPENZ

There have been several newsletters come in to the office since the last newsletter was written. Engineering Heritage Australia is one and there are two from ICE. Engineering to 1990 has also been placed at the same location:

<http://www.ipenz.org.nz/heritage/newsletters.cfm>

To view e.direct go to: <http://www.ipenz.org.nz/ipenz/publications/ezone/>

7. RECOMMENDED WEBSITES

<http://www.contrafedpublishing.co.nz/Historical.html>

<http://www.doc.govt.nz/templates/MultipageDocumentPage.aspx?id=44034>

<http://www.doc.govt.nz/templates/summary.aspx?id=34003>

<http://www.doc.govt.nz/templates/defaultlanding.aspx?id=34000>

<http://www.international.icomos.org/home.htm>

http://www.iccrom.org/eng/02info_en/02_04pdf-pubs_en.shtml

<http://www.doc.govt.nz/templates/MultipageDocumentPage.aspx?id=44034>

<http://www.doc.govt.nz/templates/summary.aspx?id=34003>

<http://www.doc.govt.nz/templates/defaultlanding.aspx?id=34000>

<http://www.international.icomos.org/home.htm>

http://www.iccrom.org/eng/02info_en/02_04pdf-pubs_en.shtml